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ABSTRACT

A project was conducted to develop a 2 + 2 articulated training program in health careers to link the last 2 years of secondary and the first 2 years of postsecondary training. During the second year of the secondary project, the first year of training was implemented and the model program was further developed and refined. Project tasks included the following: (1) organization of a technical advisory committee; (2) development of competency profiles, a tool/equipment list, basic course outlines, recommended teacher approval criteria, and an evaluation, student monitoring, and follow-up system; (3) implementation of the grade 11 curriculum (Health Careers I); and (4) program evaluation. The project developed a 2 + 2 articulated competency-based curriculum for registered nurses. The use of a career ladder concept provided opportunities for students to exit the program at grade 12 (nurse aide), grade 13 (licensed vocational nurse), and grade 14. Development of performance exams validated by industry and development of state guidelines and definitions were recommended. (Appendixes, amounting to most of the report, contain the following: advisory committee meeting minutes; matrix of grade 11-12 competencies and essential elements--Health Careers I-II; procedural plan for teacher qualification; quarterly reports; and competencies for physical therapy assistant/aide, medical laboratory technician/phlebotomist, radiologic technologist/assistant, and medical assistant.) (YLB)

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"2+2" ARTICULATED HEALTH OCCUPATIONS PROJECT

SECOND YEAR FINAL REPORT

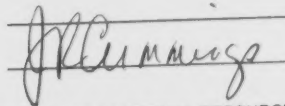
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SECOND YEAR REPORT

"2+2" ARTICULATED HEALTH OCCUPATIONS PROJECTS

NURSING PROGRAM

SPONSORED BY:

TEXAS EDUCATION AGENCY

DIVISION OF VOCATIONAL EDUCATION

CONDUCTED BY:

PARIS INDEPENDENT SCHOOLS DISTRICT

FUNDING INFORMATION

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The project involved the participation of a number of individuals to whom the project staff is very grateful. The success of the first year of project would not have been possible without the input provided by the advisory committee. Special credit and gratitude is extended to the members of the project Technical Advisory Committee.

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Also gratitude is expressed to the staff of the companion "2+2" project conducted by the Paris Junior College of Paris, Texas.

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A very important "thank you" is extended to the consultants of both projects who devoted many evenings and weekends analyzing and synthesizing data and reporting the data in useable form.

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DEFINITION OF TERMS

Advisory Committee: A group of employers and employees from outside the field of education who advise educators on the establishment and ongoing operation of training programs.

Affective Domain: Attitude, emotion, values clarification and appreciation objectives are included in the affective domain.

Articulation: Is a planned process linking technical/vocational programs and services to assist students in making a smooth transition from secondary to postsecondary institutions without experiencing delays or duplication of learning.

Cognitive Domain: Knowledge, thinking, understanding and problem solving objectives are included in the cognitive domain.

Competency-Based Education: Is designed to teach job related clusters of skills and knowledge, the mastery of which the basis upon which the student is evaluated, competency-based programs must possess the following characteristics:

1. Involvement of business and industry in the determination of the job competencies and the expected performance levels required for successful employment within a defined job or cluster of jobs.
2. Course sequence which allows the mastery of competencies leading to the satisfactory performance of all identified job competencies.

Competency: A grouping of tasks, knowledge, and attitudes needed for the performance of a job or function. The performance of a job or function may require the use of one or more competencies.

Criterion Referenced Evaluation: A testing (evaluation) technique that measures an individual's performance against a predetermined standard.

Course: Organized subject matter in which instruction is offered within a given period of time, and for which credit toward graduation or certification is usually given.

Course of Study: (1) Strictly, an official guide prepared for use by administrators, supervisors, and teachers of a particular school or school system as an aid to teaching in a given subject or area of study for given grade, combination of grades, or other designated class or instruction group; may include the aims of the course, the expected outcomes, and the scope and nature of the materials to be studied, with suggestions as to suitable instructional aides, textbooks, supplementary reading, activities, suggested learning experiences, teaching methods, and measurement of achievement; (2) sometimes loosely and incorrectly used as a synonym for curriculum.

Curriculum - pL Curricula: (1) A systematic group of courses or sequences of subjects required for graduation or certification in a major field or study, for example, social studies curriculum, physical education curriculum; (2) a general overall plan of the content or specific materials of instruction that the school should offer the student by way of qualifying him for graduation or certification or for entrance into a professional or a vocational field;

(3) a group of courses and planned experiences which a student has under the guidance of the school or college: may refer to what is intended, as planned courses and other activities or intended opportunities or experiences, or to what was actualized for the learner, as in actual educational treatment or all experiences of the learner under the direction of the school.

Curriculum Guide: A substitute for a formal course of study in which desirable content is suggested rather than prescribed; includes important goals and a variety of learning experiences, teaching aids, and evaluation techniques from which those considered best suited to a particular situation may be selected.

Element: The smallest step into which it is practicable to subdivide any work activity without analyzing separate motions, movements, and mental processes.

Essential Element: As used in this report an essential element is interpreted to mean; (1) fundamental skills/knowledge which are central (core) to the objectives of the instruction or curriculum being pursued; (2) a course of study; or (3) a unit of instruction if the course is of more than one semester in length.

Exit Points: Are specified points in the sequence of courses for a technical or occupational program at which a student may exit the program, receive a certificate, and possess the competencies required for employment in an identified occupation.

Individualized Instruction: A method of instruction that takes the needs and learning styles of the individual student into consideration to determine his/her best learning method. Instruction is said to be individualized as long as instructional decisions are based on meeting the learning needs of the individual student.

Job or Function: The major divisions of an occupation. Examples of the jobs or functions of a teacher are instruction, student guidance, professional development, etc. A job or function may be composed of one or more competencies necessary to complete a job or function.

Knowledge Test: A test used to assess mastery of knowledge (cognitive) tasks including both written and oral testing.

Mastery: A level of performance or achievement that meets a specified occupational standard.

Occupation: A specific occupation in an occupational division. A vocational instructor (teacher) is a specific occupation in the occupational division of education.

Occupational Division: Divisions or occupational areas within an occupational field or category. Education is a division of the field of professional occupations.

Occupational Field: A categorical clustering of occupations such as professional occupations, agricultural occupations, etc.

Performance Objective: A statement which describes what the learner must do to demonstrate mastery of a task. A performance statement contains a condition behavior, and a standard.

Performance Test: A test used to assess a student's mastery of a psychomotor skill.

Program Instructional: (1) An outline of the contemplated procedures, courses, and subjects offered by a school over a given period of time.

Program School: (1) The entire offering of the school. Including the out-of-class activities, and the arrangement or sequence of subjects and activities; syn. educational program; (2) syn. program of studies.

Program Vocational: A planned sequence of courses and/or activities to meet an occupational training objective. As used in this project they are defined and coded in the Classification of Instructional Programs, NCES, 1981.

Psychomotor Domain: Skill performance and "hands on" manipulative objectives are included in the psychomotor domain.

Task: Is composed of one or more elements and is a distinct and identifiable activity that constitutes logical and necessary steps in the performance of work.

"2+2" Programs: Are articulated, competency-based technical and vocational programs which link the last two years of secondary education with the first two years of postsecondary education to create a strong four-year curriculum which produces graduates with advanced skills. This type of articulation streamlines occupational program fundamentals in order to make room in the two-year postsecondary curriculum to teach more advanced technical skills than students would normally receive in a traditional or time-shortened program.

I.

Introduction

A. Background

The Texas Master Plan for Vocational Education Part I, B, Goal 7, Strategy 7-A has identified as a student outcome of "2+2" programs "Program completers will be better prepared to succeed in postsecondary high technology programs." Part I, A, Goal 7, management action plan 7-A1 of the Master Plan refers to the "2+2" concept as the linkage of secondary technical education curriculum and the postsecondary technical education curriculum. Part II, Goal area III, Goal 2 of the Master Plan states:

"To develop pilot "2+2" vocational programs to link secondary and the postsecondary programs for specific occupations. The first two years of the program would begin in high school; the last two years would be completed at the postsecondary institution."

The section of the Master Plan cited above implies that a "2+2" secondary - postsecondary program, for a specific occupation, would be designed as an articulated curriculum beginning at grade 11 and continuing through grade 14. An articulated curriculum has been defined as a specific curriculum which is cooperatively designed and conducted by two or more institutions at different educational levels i.e., secondary - postsecondary, 2 year postsecondary - 4 year postsecondary. As used in this application a curriculum is defined to mean a program of instruction consisting of a series of sequential courses which achieves a specified goal or objective. A vocational program or curriculum would prepare an individual for employment in a specific occupation or a cluster of related occupations.

The Governor's Task Force recommended (Recommendation 6): "...that statewide programs be developed and implemented to link two years of secondary to post-secondary vocational education." The Governor's Task Force also stated in Recommendation 6: "at the secondary level, emphasis should be on the basics and providing a technical foundation for vocational education." Recommendation 6 also emphasized that "articulated curricula" should be developed.

The emphasis for improving the quality and delivery of instruction for technical occupations has resulted in a joint effort of the Texas Education Agency and the Texas Higher Education Coordinating Board to sponsor the development and implementation of "2+2" articulated curriculum projects. The Paris Independent School District was a successful applicant for the secondary component of the "2+2" articulated curriculum project for health occupations project sponsored by the Texas Education Agency.

Paris Community College was the successful bidder for the postsecondary component of the project sponsored by the Texas Higher Education Coordinating Board. Both projects have been conducted cooperatively as if they were one project.

Training in health careers was selected for this "2+2" project for three specific reasons. First, health careers, specifically nursing occupations, was selected by the Texas State Board for Vocational Education as a priority for occupational instruction. Secondly, the cooperating institutions serve a specified labor market area in which the employment opportunities in health careers exceed the potential supply of qualified employees. Third, the majority of health occupations are technical and provide a structured career ladder of occupations for which there is a common core of knowledge and competencies.

The long range goal of the project is to develop a "2+2" articulated training program, in health careers, that will link the last two years of secondary and the first two years of postsecondary training to prepare students for employment in one or more occupations.

This report has been prepared to describe the procedures and accomplishments of the second year of the project.

II. OBJECTIVES

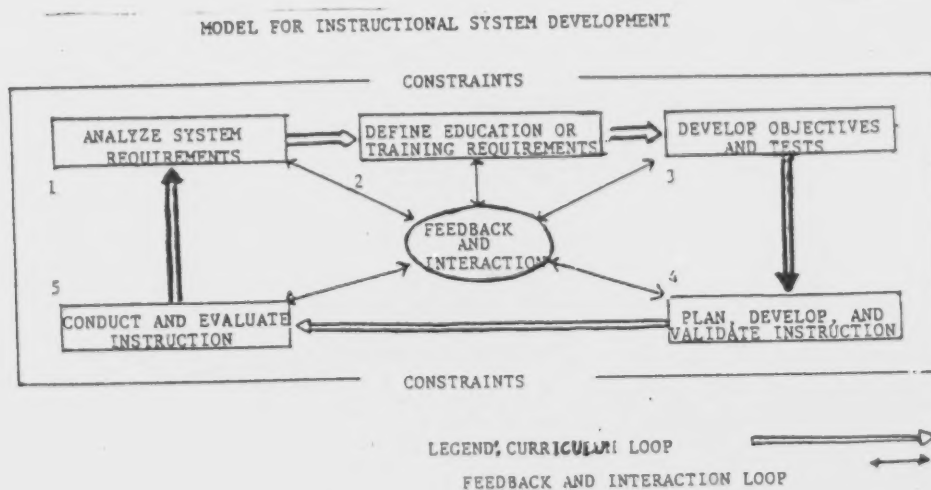
The objectives of the second year of the secondary project were:

1. To implement the first year of training as specified in the 1988-89 project entitled "A Model Secondary/Postsecondary "2+2" Program to Prepare Students for Employment".
2. To continue the development/refinement of years 2, 3, and 4 of the model "2+2" training program which meets the needs of students for employment.

III. PROCEDURES

A. Project Design

The Instructional System Development model developed by the U.S. Department of the Air Force was selected as a design for conducting the project. The Instructional System Development model conformed to the specifications of the Request for Application issued by the Texas Education Agency. A graphic description of the Air Force model is provide below.



Step 1 of the model provided for conducting analytical studies which determine inputs and outputs of the subsystems and formed the beginning point for instructional system (curriculum) development. Analysis of the system (in this case employers of persons in health occupations), identified the competencies performed by the employees in meeting the job requirements of the employers. In addition to the identification of the job competencies, the analysis identified who performed the competencies and the knowledge necessary for performance of the competencies.

Step 2 of the model initiated the planning and development of the curriculum, instructional content (courses), instructional materials, and job performance and standards. The job performance and standards provided for:

1. Performance instructional design requirements;
2. Equipment and personnel functions;
3. Equipment and facilities required to conduct instruction;
4. Human (job) performance requirements; and
5. Instructional personnel, training, training equipment, and technical requirements.

The degree or level of proficiency for each knowledge and competency was also identified in Step 2 of the instructional development system.

B. Project Tasks

The tasks that were performed during the second year of the project are described in the following narrative.

TASK 1. ORGANIZE AND USE A TECHNICAL ADVISORY COMMITTEE (TAC)

In order to involve and obtain expertise from other organizations external to the project staff, a technical advisory committee was used to obtain linkages with other agencies and organizations. The TAC members served three major roles to the project: 1) as a steering committee to the project staff; 2) reviewed and approved all research/development activities and project products submitted to TEA; and 3) as resource persons in providing technical assistance to the project staff.

The TAC members were representative of agencies and organizations who have an interest and commitment to the development of a "2+2" articulated curriculum for health occupations. The membership of the TAC was presented in the ACKNOWLEDGEMENTS of this report. The TAC was convened four times during the second year of the project. Copies of the minutes of each of the TAC meetings are presented in Appendix A.

TASK 2. DEVELOP COMPETENCY PROFILES

An analysis of each of the identified competencies was made. This analysis was referred to as a task analysis or instruction analysis. The analysis of each competency was made to determine:

- 1) Instructional content (knowledge and manipulative skills) to be developed.

- 2) Equipment and facilities required to support the curriculum; and materials essential to performing or demonstrating the competency.

The results of the competency analysis was used in the performance of tasks 3, 4, 5, 6, and 7. The procedures for tasks 2 through 7 conform to Step 2 of the Instructional System Design developed and used by the U.S. Air Force.

TASK 3. DEVELOP A LIST OF NECESSARY TOOLS/EQUIPMENT

A list of tools and/or equipment was developed from the analysis of competencies performed in Task 2. The lists were submitted to the TAC for review and approval. The list of tools and/or equipment was prepared for both the secondary and postsecondary level courses (programs). The lists include average initial costs for each item on the lists. The prepared lists are included in the accompanying final products.

TASK 4. DEVELOP BASIC COURSE OUTLINES

The data resulting from the analysis of competencies (task 2) was used in the development of the basic course outlines. Existing basic course outlines for the curriculum developed were reviewed prior to the development of new basic course outlines. Prior to the development of basic course outlines for the secondary level, the competency profiles were compared to the list of essential elements mandated by TEA for secondary health occupations programs. A matrix of essential element and competencies identified for Health Careers I (Grade 11) and Health Careers II (Grade 12) are presented in Appendix B.

TASK 5. FINALIZE RECOMMENDED STUDENT PREREQUISITES

All educational curricula should establish prerequisites for enrollment in courses which are in the curriculum and are offered in sequence. In public schools the prerequisites are not published but are implied by grade placement. Prerequisites should be published for all vocational instructional programs (courses) in accordance with H. B. 72, Article VI, Part H, which states "(n) Beginning with the 1985-1986 school year, each district enrolling a student in a vocational program shall consider the suitability of established curricula for the student and the adequacy of the student's academic preparation for admission to a particular vocational curriculum." Prerequisites are included in the accompanying final products.

TASK 6. PREPARE A LINE DRAWING OF RECOMMENDED INSTRUCTIONAL FACILITY

A line drawing of the proposed recommended instructional facility is included in the accompanying final products.

TASK 7. DEVELOP RECOMMENDED TEACHER APPROVAL CRITERIA

The analysis of the occupations and the selected instructional delivery system(s) for the curriculum and courses of the curriculum provide the basis for the qualification of personnel who teach the curriculum. A review of the literature (basically state agency requirements)

and data compiled from tasks 2 and 7 (delivery systems) was used to develop the recommended teacher approval criteria. The drafted recommended approval criteria developed by the staff was submitted to the TAC for review and approval. The finalized criteria was prepared as a separate project product and included in the curriculum narrative and the project final report, presented in Appendix C.

TASK 8. DEVELOP AN EVALUATION, STUDENT MONITORING, AND FOLLOW-UP SYSTEM

The companion Coordinating Board RFP to the Texas Education Agency RFA for the "2+2" articulated curriculum provides for the development, field testing, and finalization of the curriculum over a six year period. The field testing or interim evaluation of the curriculum requires a comprehensive system of evaluation, and student monitoring and follow-up which has become a separate project since the awarding of this "2+2" contract.

TASK 9. IMPLEMENT THE FIRST YEAR OF TRAINING OF THE APPROVED "2+2" CURRICULUM IN GRADE 11

Grade 11 curriculum (Health Careers I) was implemented on a pilot basis in the Marshall, Paris and Atlanta ISD's during the 1989-90 school year. Grade 12 (Health Careers II) is scheduled for implementation in these same schools during the 1990-91 school year. Technical assistance will be available to other districts should they choose to implement the "2+2" articulated curriculum.

TASK 10. PREPARE AND SUBMIT REPORTS

The project staff prepared and submitted the appropriate reports to the Texas Education Agency. The quarterly progress reports and the final report were prepared in accordance with the guidelines of the Texas Education Agency for preparing project reports. The quarterly reports are included in this final report and are presented as Appendix D.

TASK 11. EVALUATE THE PROJECT

The project was evaluated on the basis of project installation, process, and product using a third party evaluator. The evaluation of the project is presented on the following pages.

IV. RESULTS AND ACCOMPLISHMENTS

Second Year Results and Accomplishments.

Through the results of dedicated efforts on the part of the project staff as acknowledged in the beginning of this report the following results and accomplishments have been completed.

A "2+2" articulated competency-based curriculum for registered nurses has been developed.

THIRD PARTY EVALUATION

HEALTH OCCUPATIONS "2 + 2" PROJECT

This report is the result of the findings of the evaluation for the "2+2" Health Occupations Project conducted at Paris Junior College in cooperation with Project Staff and Technical Advisory Committee members during the 1989-90 school year. The evaluation process focused on the (1) Technical Advisory Committee, (2) tasks of the application presented to the Texas Education Agency and the College Coordinating Board, (3) project products, and (4) project reports. Input to this evaluation consisted of information which was obtained by questionnaire from the Project Staff, Technical Advisory Committee, and State Agency. Interim reports, which included project products, actual attendance by the Third Party Evaluator at two TAC meetings, and minutes of TAC meetings were reviewed to determine the achievement of the project in relation to the evaluation stages as proposed.

Technical Advisory Committee

This part of the evaluation focuses on the creation and use of the Technical Advisory Committee for the project. Three specific questions were answered in evaluating the TAC stage of the project.

- A. Was the TAC created as proposed?
- B. Are the various agencies and organizations proposed for representation on the TAC represented?
- C. Was the TAC used as proposed?

Responses from the project staff, the technical advisory committee, and the state agency resulted in a very positive response to all three questions.

Tasks

Fourteen questions were posed in relation to the evaluation of the tasks stage of the project.

- A. Was an advisory committee created and used?
- B. Was a "2+2" curriculum designed and developed?
 - 1. with surveys of local businesses or industries conducted to determine program employment needs and job competencies for program graduates?
 - 2. with the curriculum designed and developed for a competency based program utilizing specialty and core courses?
 - 3. with course outlines developed for the postsecondary level?
- C. Were Competency Profiles developed?
- D. Was a list of necessary tools/equipment developed?
- E. Were basic course outlines developed?
- F. Were recommendations for student prerequisites developed?
- G. Were line drawings of recommended instructional facilities prepared?
- H. Were recommended teacher approval criteria developed?

- I. Were evaluation, student monitoring, and follow-up systems developed?
- J. Were timely reports prepared and submitted?
- K. Was the project evaluated?

Responses to this set of questions varied. Unanimous positive responses were received for the questions related to the local surveys, the development of basic course outlines, preparation of line drawings of recommended instructional facility, plus the preparation and submitting of reports. Two negative responses were tallied in relation to the development of course outlines for the postsecondary level. Either "NA" and/or "no response" was recorded for the tasks related to the design/development of curriculum for a competency based program (utilizing specialty and core courses); the development of competency profiles; the list of tools/equipment; student prerequisites; the teacher approval criteria; and the project evaluation. It should be noted, though, that only two non-positive responses were received on any one of these tasks. However, there were four non-positive responses relating to the task of developing a system for evaluation, student monitoring, and follow-up.

The project staff worked extremely well even though delayed funding approval (awarded in October 1989) dictated a late start on this phase of the "2 + 2" health occupations project. The excellence of these completed tasks exceeded the anticipated outcome of the project.

Project Products

Four questions were used in evaluating the products stage of the project.

- A. Were the proposed project products produced?
- B. Were the project products developed in accordance with the proposed specifications?
- C. Did the project produce additional products that will contribute to the total program?
- D. Were the proposed products produced within the time frame proposed?

The responses were overwhelmingly positive from project staff, TAC members, and the state agency concerning the products which were produced during the somewhat shortened time frame. The question related to the development of the project products in accordance with the proposed specifications received the greatest number of positive responses.

Project Reports

Two questions were posed that related directly to the evaluation of the reporting stage of the project.

- A. Was sufficient information about the project programs provided to monitor the project performance?
- B. Did the project reports comply with the specifications stated in the proposal?

Responses from project staff, TAC members, and the state agency were all extremely positive with regard to reports. All respondents indicated that reports had been sufficient both in scope and sequence.

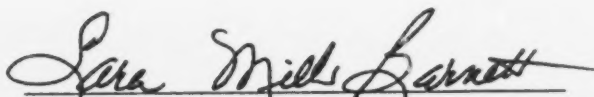
From comments sent to the third party evaluator, there was some concern regarding the delayed funding which placed the project in a time squeeze. Also, there still seems to be some minor concern among a few of the TAC members that this project may not be readily adapted to some of the existing postsecondary nursing programs.

The implementation of the "2 + 2" health occupations curriculum at grade eleven as a pilot project in the Marshall ISD in the Fall of 1989 increased the health occupations educational opportunities for students and educational facilities in Texas. This pilot project was implemented in the Paris and Atlanta ISDs later in the school year. Grade twelve will be implemented during the 1990-91 school year. It is anticipated that grades thirteen and fourteen will follow on schedule.

During this phase of the "2+2" health occupations project, there again seemed to be a continuous and on-going evaluation by project staff, TAC members, and state agency participants. The third party evaluator was able to attend two meetings of the TAC and was, therefore, able to observe the beginning of this phase and then the final review of the draft copy by the TAC, project staff, and state agency participants at the final meeting for the 1989-90 year. The principal investigator has been outstanding in his ability to coordinate the group talents and efforts. It is the general feeling by project staff, TAC members, and the third

party evaluator that all tasks will be accomplished by the June 30, 1990, deadline.

The third party evaluator has reviewed documentation on file for the project, has listened to questions, comments, and arguments for/against specifics of the project, and has observed the enthusiasm with which the project staff, the TAC members, and the state agency have successfully tackled a monumental and very timely task. Based on all these observations, I have found the "2+2" health occupations project to exceed the objectives of the Requests for Applications issued by the Texas Education Agency and the Coordinating Board.


Sara Mills Barnett, Ph.D.
Third Party Evaluator
June 25, 1990

It is a strong four year articulated curriculum that will produce graduates with advanced knowledge and skills.

The curriculum is developed on a career ladder concept in that exit points are built in for nurse aide (grade 12) and licensed vocational nurse (grade 13).

Using the career ladder concept the "2+2" articulated curriculum for nursing education is beneficial to students and employers alike. For students --- it provides the student with the opportunity to exit and reenter the program at specified occupational levels. For the employer --- it assures a better prepared employee with greater skills and competencies than is available in existing nursing education programs.

The curriculum provides for a strong core of supporting academic courses in math, science and communication skills.

It has been determined that a core of common competencies can be taught in grades 11 and 12 for the occupations of registered nurse and subordinate occupations of nurse aide and licensed vocational nurse, physical therapy assistant/physical therapy aide, medical laboratory technician/phlebotomist, radiologic technologist/ radiology assistant, and medical assistant. Competencies for physical therapy, medical laboratory, radiology and medical assistant are presented in this report in Appendix E, F, G, H. This common core of cognitive (knowledge) competencies can be taught by the secondary health careers instructor via classroom lecture/laboratory setting with the performance (psychomotor) competencies being demonstrated in a clinical setting under the supervision of registered nurse or other certified health professional in an approved health facility.

V. SUMMARY OF FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

A. Summary of Findings

Based on a review of the processes and the products of this project it was found that:

1. The procedures performed by the project staff and consultants and the specifications of the request for proposals were very appropriate for the development of a "2+2" articulated curriculum for grades 11, 12, 13, and 14.
2. The use of a career ladder concept in the development of "2+2" provides an opportunity for students to exit the program at grades 12, 13, and 14 with saleable skills required and validated by business, industry, and government.
3. "2+2" programs provide students the opportunity to be prepared with advanced skills and knowledge that are needed in the workplace but cannot be developed within timeframe (semester hours) of an associate degree.

4. The "essential elements" of Chapter 75 of the Texas Administrative Code for health occupations are not the same as the competencies or performance requirements of the workplace.
5. There is a validated "core" of competencies common to several health occupations that may be developed at the eleventh grade.

B. Conclusions

Based on the findings of this project it is concluded that:

1. The use of a "2+2" articulated curriculum delivered by a system of competency based instruction will provide the workplace with better prepared and more qualified technicians.
2. Administrators and instructors must be provided with professional improvement activities designed to assist them in developing competencies and knowledge essential to developing, implementing, and evaluating "2+2" articulated technical/preparation programs.
3. Competencies and criteria for measuring mastery of the competencies should be determined by the workplace on a statewide basis.

Recommendations

1. It is recommended that performance exams be developed and validated by business and industry on a statewide basis which would be used to determine mastery of competencies by each student participating in a technical or vocational program.
2. It is recommended that state level guidelines and definitions be developed and disseminated for use by public secondary schools and two year postsecondary institutions for the development, implementation, and evaluation of "2+2" programs.
3. It is highly recommended that the State Board of Education, by rule and in the master plan, replace the current essential elements in Chapter 75 with competencies identified and/or validated by the workplace for occupational specific training in grades 11 and 12.
4. It is recommended that Health Careers I (grade 11) be allowed to substitute for the 1/2 unit of health education.

APPENDICES A

MINUTES

ADVISORY COMMITTEE MEETINGS

Minutes
2+2 Articulated Health Occupations Program
Technical Advisory Committee Meeting
Paris Independent School District
Administration Building
September 27, 1989

Present:

Ms. Barbara Terrell - TEA Project Advisor
Ms. Vicki Oglesby - Project Co-Director - PJC
Mr. Ken Emery - Project Co-Director - Paris ISD

Committee Members:

Ms. Ella Bedgood	Ms. Virginia Holmes
Ms. Sandra Chadwick	Mr. Ladayne Johnson
Ms. Stacy Chappell	Ms. Jane Tangney
Ms. Martha Giddens	Ms. Marilyn Woods
Ms. Linda Gordan	

Staff:

Ms. Sara Barnett	Ms. Barbara Robertson
Dr. Bill Lovelace	Ms. Nancy Stevenson
Mr. Gaylon Maddox	Mr. David Ingram

David Ingram called the meeting to order at 9:30 a.m. in the Administration Building of the Paris Independent School District, 1920 Clarksville Street, Paris, Texas.

Ms. Elaine Ballard, Superintendent of the Paris Independent School District, welcomed the committee to Paris ISD, and emphasized the importance of the 2+2 Health Occupations Project and the work that has been accomplished on the project.

Mr. Ken Emery, Project Co-director from the Paris ISD made some remarks regarding the progress made on the project and that the project was not only getting recognition in Texas, but nationally also.

He expressed his appreciation to the project staff for their work and efforts and to the advisory committee members for their time, effort and input to the project.

Mr. Ingram, introduced the committee members, project co-directors and staff and informed the group that three more meetings would be held during the 89-90 project year. Dates of these meetings will be announced in the near future.

Mr. Ingram informed the committee that approval had been received from the Coordinating Board that \$17,000 of unexpended funds from the 88-89 contract was re-allocated to the 89-90 project year. This amount along with the \$40,000 approved for the 89-90 year brings a total of \$57,000 for project activities during this contract year.

The committee was informed that the 11th grade curriculum, Health Careers I had been submitted to the Texas Education Agency for approval to implement as an experimental course for the 89-90 school year. The course to be implemented in the Marshall ISD, no word from TEA regarding this request as of this meeting.

Eleventh grade competencies and modules (units) were discussed with the committee and it was explained that all other courses in the registered nurse curriculum would have the same format. The staff is in the process of identifying the competencies and modules for the 12th grade course and all postsecondary courses, along with learning activities, criteria for determining mastery, references and student competency profile charts.

The committee was informed that due to the criteria for evaluation of Associate Degree Programs in Nursing that we must reduce the number of semester hours in the registered nurse curriculum. The staff made revisions in the postsecondary semester hours from 75 to 71. The generally accepted limits for the associate degree programs in accordance with the criteria established by the National League of Nursing is 60 to 72.

Mr. Emery, ask what could be done for the student who entered the registered nurse program, who had not gone through the 2+2 curriculum at the secondary level. Discussion followed on possible ways that the two secondary courses could be included in the postsecondary program. If these two courses were included in the postsecondary curriculum and made into a 6 semester hour course, it would raise the semester hours to 77. This concern along with others will be discussed with the State Licensing Board's for Nursing and the National League for Nursing.

Discussion followed concerning the "2+2" registered nurse curriculum and existing postsecondary nursing programs. The "2+2" articulated curriculum as developed under this project will have to be accepted by postsecondary programs and taught as an articulated curriculum. This is not to say that current existing programs (curriculums) cannot incorporate some of their curriculum (methods, techniques, procedures, etc.) into the "2+2" articulated, competency-based curriculum.

A line drawing of a recommended facility for secondary and postsecondary was presented to the committee for review. The committee made no recommendations for change in the secondary facility as presented.

The recommendation to the postsecondary facility was to include a restroom and to have one regular sink and one surgical sink rather than two surgical sinks. These modifications will be made.

A listing of secondary and postsecondary equipment and supplies was presented to the committee for review. The recommendation was made to add flat sheets to the secondary supply list in order to teach bed-making skills.

There was a question as to the need for a laryngoscope and blades on the postsecondary equipment list. After some discussion it was agreed that this item remain on the list.

The committee was appraised of the status of a student tracking system which is to be included as a part of the project.

The system under consideration for the postsecondary level is the Lone Star Student Tracking System for Texas Community Colleges.

Dr. Bill Lovelace has submitted a letter to the appropriate committee working with the Lone Star System, requesting that certain data elements be added and required for tracking students participating in the "2+2" articulated curriculum. No response had been received from the committee as of this meeting.

Dr. Lovelace will be working with the appropriate Texas Education Agency personnel to develop a system for tracking secondary students in "2+2" articulated curriculums.

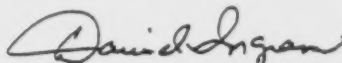
The committee was given a handout that gave a brief overview of the project and some of the activities accomplished to date along with an explanation of 89-90 activities to be completed.

Topics alluded to in the handout included the overall goal of the project, definition of articulated curriculum, results of the occupational survey and development of the registered nurse curriculum, with the exit points for the nurse aide, and licensed vocational nurse. Included also, was a listing of course titles, course descriptions and the sequence of courses to be taken from program entry at the freshman postsecondary level to program completion the sophomore year.

Mr. Ingram made closing remarks and thanked committee members for their sincere interest in the project and their most valuable input and recommendations.

The meeting was adjourned at 12:20 p.m.

Respectfully submitted



David Ingram, Principal Investigator
"2+2" Health Occupations Project

Minutes
"2+2" Articulated Health Occupations Program
Technical Advisory Committee Meeting
Paris Junior College - Alford Center - Room 105
December 15, 1989

Present:

Ms. Vicki Oglesby - Project Co-Director - PJC
Mr. Ken Emery - Project Co-Director - Paris ISD

Committee Members:

Ms. Sandra Chadwick, RN, BSN
Ms. Staci Chappell, RN
Ms. Martha Giddens, HOE Instructor
Mr. Leonard Harcrow, Vocational Director
Ms. Virginia Holmes, RN, MSN
Ms. Jane Tangney, RN, MSN
Ms. Billie Viehe, Counselor, PISD
Ms. Josie Williams, Ph.D.
Ms. Marilyn Woods, Placement Coordinator, PJC

Staff

Mr. David Ingram, Project, Principal Investigator
Mr. Bill Lovelace, Ph.D., Instructional Design Specialist
Mr. Gaylon Maddox, RN, MS
Ms. Barbara Robertson, HOE Instructor
Ms. Nancy Stevenson, RN, M Sed.

Guest:

Mr. Bob Edwards - Counselor - North Lamar ISD

David Ingram called the meeting to order at 9:30 a.m. in the Alford Center, Room 105 on the Paris Junior College campus.

Mr. Ingram welcomed the committee, staff, and guest and expressed his appreciation for their attendance to the second called Advisory Committee meeting.

A roster of the committee members and staff was circulated and members were asked to make any corrections in regards to name, title, address, etc. The roster will become a part of the final report that will be submitted in June to the Texas Education Agency and College Coordinating Board.

Ms. Nancy Stevenson gave a report on the project presentation made at the America Vocational Association (AVA) conference in Orlando, Florida on December 4, 1989 by Ms. Stevenson and Dr. Carrie Nelson. She stated that based on their report and the handouts submitted there was a very high level of interest from the conference participants regarding the work that had been accomplished on the "2+2" Articulated Curriculum for the Registered Nurse Program.

Emery, asked if a copy of the handouts prepared by Ms. Stevenson and Dr. Nelson could be shared with committee members. A copy of the handouts given out at the conference will be sent to committee members along with the minutes of this meeting.

Ms. Barbara Robertson reported on the "2+2" Articulated Teleconference in which she participated as a panel member on December 7, 1989. The teleconference was aired from Austin Community College via STARLINK (State of Texas Academic Resources Link) with emphasis on "2+2" Articulated Programs. The "2+2" Programs included in the teleconference were Allied Health, Paris, ISD and Pairs Junior College, Transportation Technologies, Northeast Texas Community College and Electronics Engineering Technology, San Antonio College.

A video-tape was shown to the committee on Ms. Robertson's presentation and explanation regarding the work, efforts and status of the "2+2" Health Occupations Project. Ms. Robertson did an excellent job describing the project and was commended by the committee for her excellent presentation. The committee presented Ms. Robertson with a video-tape of her presentation.

Mr. Ingram gave a brief overview of state "2+2" Users Group that has been organized by the staff at the Texas Higher Education Coordinating Board. The overview gave the purpose, goals, and objectives of the state "2+2" Users Group.

Revised course descriptions for grade 11 and 12 had been mailed to committee members for review. The revised course descriptions included a more thorough and detailed explanation of what would be taught in these secondary courses. There were no recommendations or suggestions from the committee for additional revision.

Revised curriculum for RN and LVN "2+2" and non "2+2" students were submitted to the committee for review and discussion. The revised curriculum for the RN and LVN provides escrow credit for students completing the "2+2" secondary curriculum. These students would take Nursing: Basic Needs 1a and receive 2 semester hours of credit, with 4 hours held in escrow, and these 4 hours be awarded to the "2+2" student upon completion of Nursing: Basic Needs II and Nursing Through the Life Span with a grade of 75 or above in each course.

The non "2+2" student who enters the program at the postsecondary level would be required to take Nursing: Basic Needs 1b and would receive 6 semester hours credit and then be eligible to pursue the remainder of the "2+2" curriculum. The staff will develop a specific set of course objectives for Nursing: Basic Needs 1a ("2+2" student) and a specific set of course objectives for Nursing: Basic Needs 1b (non "2+2" student). Competencies that were taught in the secondary courses will be included in Nursing: Basic Needs 1b (non "2+2") but will not be duplicated in Nursing: Basic Needs 1a ("2+2" student). This curriculum framework will allow for a one track curriculum and met the needs of both the "2+2" student and the (non "2+2" student). There were no suggestions or recommendations from the committee for additional revisions.

A curriculum flow chart was presented for review and discussion. The flow chart indicated the entry and exit points for the nurse aide, LVN and the RN and the recommended Nursing and support courses to be taken in sequence by semester(s) beginning at grade 11 and terminating at the end of grade 14.

The staff recommended that the 3 semester hour nutrition course be deleted from the curriculum and add a General Chemistry course of study. The General Chemistry and Entry Into Vocational Practice, either or both could be taken in the summer between the freshman and sophomore year. This would enable students to sit for the Licensed Vocational Nurse Examination and still continue with the registered nurse curriculum without loss of any time. The nutrition competencies would be taught as "strands or threads" in the regular nursing courses. The 4 semester hour chemistry course is included in the proposed 69 semester hour curriculum for the RN program.

philosophy and conceptual framework for the "2+2" RN Program was presented to the committee for review and discussion. Mr. Gaylon Maddox explained the staff's thoughts, ideas, and concepts that went into the development of the philosophy and conceptual framework for the program.

Committee members were encouraged to further study the philosophy and conceptual framework and provide the staff with any feedback that they deemed necessary. Copies will be sent to all advisory members and state agency project advisors who were not in attendance.

Dr. Bill Lovelace presented an overview of a "How-To" manual outline for "2+2" Articulated Curriculum for Health Occupations. Dr. Lovelace explained that the "How-To" manual would be developed based on the project's proposal guidelines and specifications. Dr. Lovelace stated that he would work closely with the staff to validate the steps, sequences, and processes utilized by the staff in the development of the project activities.

Mr. Ingram presented the committee with draft copies of criteria for determining mastery on performance of terminal performance objectives. He stated that a special task force may be formulated to assist with the development of the criteria for performance examinations in determining mastery performance for new employees. He had not consulted with Ms. Oglesby and Mr. Emery, but would do so and report back to the committee at a later date.

Discussion followed as to why the General Chemistry course was placed in the curriculum sequence during the summer between the freshman and sophomore year, rather than during the freshman year so that students pursuing the LVN track would have the chemistry course. It was pointed out that most nursing programs required only high school chemistry and that high school chemistry was a prerequisite for students entering the "2+2" nursing program. The staff's rationale for adding the chemistry course to the RN curriculum is that chemistry is needed to increase critical thinking skills and to further understanding of physiological responses in health and illness. This grounding in the basic sciences is necessary for many competencies, e.g., health assessment, teaching, counseling, pre and post-operative care, medication preparation, medication administration, medication teaching, etc. All of these competencies come under the job description of the RN. The secondary chemistry course will give the LVN student enough chemistry background to perform his/her duties and responsibilities. Any higher level competencies, duties, and responsibilities will be performed under the direction and supervision of an RN or head nurse.

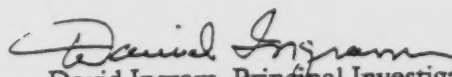
Mr. Emery asked about the status of Health Careers I substituting for the required 1/2 unit of health. This request for consideration was submitted to the Texas Education Agency along with the request to implement Health Careers I as an experimental course. There has been no response from TEA. We will continue to pursue this request when the basic course outlines are completed.

The committee was asked for any additional clarification and/or if there were additional comments or concerns—

There being none, Mr. Ingram expressed appreciation to the committee and staff for their attendance, and their input and wished everyone a safe journey home and a Happy Holiday Season.

The meeting adjourned at 12:00 noon.

Respectfully submitted,


David Ingram, Principal Investigator
"2+2" Health Project

MINUTES

"2+2" Articulated Health Occupations Project Technical Advisory Committee Meeting Paris Junior College, Alford Center, Rm. 106, March 30, 1990

Present:

Ms. Vicki Oglesby - Co-Director - PJC
Mr. Ken Emery - Co-Director - Paris ISD

Committee Members

Ms. Cynthia Amerson, RN, BSN, NTCC, Mt. Pleasant
Ms. Sandra Chadwick, RN, BSN, PJC, Paris
Ms. Staci Chappell, RN, Department of Human Resources, Paris
Ms. Cora Clay, RN, MCA, Board of Vocational Nurse Examiners, Austin
Ms. Deborah Cody, NTCC, Mt. Pleasant
Ms. Martha Giddens, Paris High School, Paris
Ms. Vicky Phifer, RN, McCuisition Reg. Medical Center, Paris
Ms. Barbara Terrell, Texas Education Agency, Austin
Ms. Tommye Wilhite, RN, St. Joseph Hospital, Paris

Staff

Mr. David Ingram, Project Principal Investigator
Mr. Bill Lovelace, Ph.D., Instructional Design Specialist
Ms. Barbara Robertson, H.O.E. Instructor, Plano ISD
Ms. Nancy Stevenson, RN, M Sed, Marshall ISD

David Ingram called the meeting to order at 9:30 a.m. in the Alford Center, Rm. 106 on the Paris Junior College campus.

Barbara Robertson reported that she and Gaylon Maddox made a project presentation at a 2+2 Tech-Prep Regional Conference held in Dallas on March 1-2, 1990. There were representatives from 6 states in attendance. There was a high level of interest from the conference participants regarding the concept and procedures utilized in developing the 2+2 curriculum for registered nurses.

Nancy Stevenson and David Ingram reported on a presentation that was presented at an area conference on March 1, 1990, at Northeast Texas Community College on the Health Occupations project.

The 2+2 Health Occupations project will be presented at the Texas Vocational Nursing Association Conference in San Antonio on April 6, 1990.

Ingram asked for committee approval to amend the minutes of the last meeting to read that Chemistry and Entry Into Vocational Practice either/ or both could be taken during the summer between the freshman and sophomore year. This would enable students to sit for the Licensed Vocational Nurse Examination and still continue with the Registered Nurse Curriculum without the loss of any time.

The committee approved this recommendation.

The project staff presented a Procedural Plan for Verification of Competency Mastery by a non-RN Secondary Health Occupations instructor.

The plan states that a non-RN secondary instructor that is certified to teach secondary health occupations by the Texas Education Agency is qualified to teach, evaluate and verify mastery of the cognitive (knowledge) competencies and that the psychomotor (performance) competencies would be measured and evaluated by a registered nurse in a clinical setting using the Performance Evaluation Criteria as developed as a part of this project.

Tommye Wilhite moved that the procedural plan be accepted and a second by Sandra Chadwick. Motion passed to include procedural plan as submitted.

Discussion was conducted on the two types of clinical work experiences utilized by secondary Health Occupations programs. The two types are:

Option I: Cooperative Health Occupations

The structure of the co-op is that students attend class 1 hour each day during the 11th and 12th grade years and placed on training stations for 10 or 15 hours per week. .10 hrs per week, student receives 2 credits. .15 hrs per week, student receives 3 credits.

These students are employed by the employers and receive pay for hours worked. They are under the supervision of the secondary Health Occupations Instructor and the employing institution.

Option II - Clinical I: Grade 11

Students attend class 2 days per week, which equals 4 hours per week for classroom theory and laboratory instruction. The other 3 days students are assigned to a clinical setting in which they are assigned to a hospital, where they will work in one department for a period of 4 to 5 weeks and then rotate to other departments for 4 to 5 weeks for the remainder of the school year. Total number of hours per week in the clinical rotation is 6.
. students receive 2 credits toward graduation

Clinical II: Grade 12:

Students will have made an occupational choice to 1 or 2 fields. They will receive 4 hours of classroom theory and laboratory instruction per week and be assigned in a clinical setting for 1 semester in one occupational area and 1 semester in the other occupational area. Under this option, the student does not receive any compensation and is under the supervision of the secondary health instructor and a licensed practicing professional in the clinical setting.
. students receive 2 credits toward graduation

There was concern by some members that the Co-op (Option I) might not be used in the 2+2 program due to Licensed Vocational Nursing rules and regulations.

The committee recommended that both the clinical and co-op be left in the plan and that Texas Education Agency training station design and standards be submitted with the curriculum.

An instrument for determining performance evaluation criteria was submitted for review and discussion. The instrument was developed and designed by a special project task force composed of Jane Tangney, Director Home Health/Hospice, St. Joseph Hospital, Gaylon Maddox, RN/LVN Instructor, Paris Junior College, Jara Bowden, RN, McCusition Regional Medical Center and Mary Caylor, RN, St. Joseph Hospital. The committee made no recommendations for changes in the performance evaluation criteria instrument. It will be included in the curriculum report.

Samples of secondary and postsecondary basic course outlines were presented for review and discussion. There was some concern about the wording of "Terminal Performance Objective." The word performance according to some does not apply to knowledge (cognitive) competencies. Dr. Bill Lovelace recommended that knowledge objectives be changed to "Terminal Cognitive Objectives instead of Terminal Performance Objectives. After further discussion the committee recommended to change the term to "Terminal Objective." Basic course outlines will be amended to reflect this change.

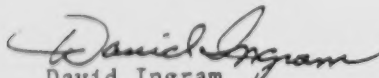
After some modifications of 11th and 12th grade competencies and the pilot of the 11th grade curriculum by Nancy Stevenson in Marshall ISD, the staff recommended that the nurse aide competencies be taught during the 11th and 12th grade year, rather than in the 11th as previously proposed and approved by the committee. The committee approved this recommendation and the curriculum will show that students will be eligible to sit for the State Health Department Examination for registry as a Nurse Aide at the end of the 12th grade, provided the cooperating institution has been approved as a Nurse Aide Training program.

Mr. Ingram informed the committee of a "2+2" Articulated Health Occupations workshop sponsored by Paris ISD and Paris Junior College on May 4, 1990. Regional secondary and postsecondary personnel will be invited to attend. Brochures with information regarding the workshop were given to committee members.

A report was given to the committee that a proposal had been submitted to market the "2+2" Registered Nurse Curriculum. Ingram reported that work was progressing well on the PTA, MLT and Radiologic Technologist programs with the staff from McClennan Community College. All the tasks, activities, and products called for in this year's contract will be completed as scheduled.

There being no further business or discussion the meeting adjourned at 12:10 p.m.

Submitted by:


David Ingram

MINUTES
"2+2" Articulated Health Occupations Project
Technical Advisory Committee Meeting
Paris Independent School District Administration Building
Thursday, June 14, 1990

Present:

Ms. Carrie Nelson, Ph.D. - Advisor - College Board
Ms. Vicki Oglesby, Co-Director - PJC
Mr. Ken Emery - Co-Director - PJC
Ms. Mary Jane Ashe - Board of Nurse Examiners

Committee Members:

Ms. Ella Ruth Bedgood, R.N., Atlanta I.S.D.
Ms. Stacy Chappell, R.N., B.S.N., Texas Dept. Human Resources, Paris
Ms. Deborah Cody, N.T.C.C., Mt. Pleasant
Mr. Leonard Harcrow, Mt. Pleasant I.S.D.
Ms. Virginia Holmes, R.N., M.S.N., Paris Junior College
Ms. Vicky Phifer, R.N., McCuistion Regional Medical Center, Pairs
Ms. Jane Tangney, R.N., M.S.N., St. Joseph Hospital, Paris
Ms. Josie Williams, M.D., 2890 Lewis Lane, Paris

Staff:

Ms. Sara Barnett, Ph.D. - Third Party Evaluator, Texarkana
Mr. David Ingram, Project Principal Investigator
Dr. Bill Lovelace, Project Instructional Design Specialist, Denton
Mr. Gaylon Maddox, R.N., M.S., Director Cherry Street Annex, Paris
Ms. Barbara Robertson, H.O.E. Instructor, Plano I.S.D.
Ms. Nancy Stevenson, R.N., M.Sed., Marshall I.S.D.

David Ingram called the meeting to order at 9:30 a.m. in the Administration Building of the Paris Independent School District.

Mr. Paul Trull, Assistant Superintendent of the Paris Independent School District welcomed the committee to the district, for the fourth and final meeting for the 89-90 fiscal year.

Mr. Ingram presented the group with copies of the table of contents of the "2+2" curriculums that upon approval of the committee and Coordinating Board Advisors would be submitted as the final product as per contract specifications. The final report will be assembled as follows:

Health Careers I (Grade 11)	Book I
Health Careers II (Grade 12).	Book II
Nursing Process (Grade 13).	Book III
Nursing: Basic Needs Ia-Ib (Grade 13).	Book III
Nursing: Basic Needs II (Grade 13)	Book III
Nursing Through the Life Span (Grade 13).	Book III

Entry Into Vocational Practice (Grade 13)	Book III
Nursing: Complex Needs I (Grade 14).	Book IV
Nursing: Complex Needs II (Grade 14)	Book IV
Entry Into Professional Practice (Grade 14)	Book IV

Mr. Ingram explained that the table of contents for the four publications were essentially the same except for the basic course outlines for each course. He stated that all products and tasks included in the table of contents had been presented and approved by the committee over the duration of 1988-89 and 89-90 contract periods.

The committee members were informed that they would be given a copy of the finished product when completed should they desire to have a set of the materials. Dr. Carrie Nelson reminded the group that the finished product would be a transitional product only, in that we were ending the contract year, but monitoring, evaluation and revisions would continue as the program was implemented.

Mr. Maddox pointed out that a section on orthopedics apparently had been left out, but that he would add additional competencies to Nursing: Basic Need I, mobility and immobility to include the section on orthopedics.

The 1989-90 contract called for the development of a "2+2" How-To-Manual. Dr. Bill Lovelace developed and presented a draft copy to committee members, and asked that they provide feedback to David Ingram in regards to any recommendations for revisions, additions or deletions.

Dr. Lovelace pointed out that a curriculum was of no value unless it had been approved by all accrediting agencies and in this case by the Boards of Nursing License Examiners. Discussion followed about several sections of the manual (i.e. course prerequisites, student prerequisites, task analysis, terminology, occupational analysis, job, position and career definitions, competency profiles, monitoring-tracking system, etc.)

Dr. Nelson commented that the State Board was in the process of developing guidelines for "2+2" programs and that the guidelines hopefully would be completed by January 1991, and that changes might have to be made in funded and non-funded "2+2" programs to meet these guidelines.

Dr. Lovelace stated that this "How-To-Manual" was written on a generic basis with examples included from the "2+2" Health Occupations Project. Suggestions were given on how to better show the example of how to sequence competencies from the "easy to difficult" or "simple to complex". Mr. Maddox commented that this was the most difficult task that the health occupations project staff was confronted with as there were four different people working on four different levels. Dr. Lovelace will conduct further research on this suggestion.

Dr. Nelson asked for a list of terms as used in the "How-To-Manual" and in the health occupations project and she would seek definitions of those terms from the state level. The list of terms are included in the project's final report of, which draft copies were given to Dr. Nelson.

Discussion was conducted on methods in which mastery of competencies would be verified. Dr. Lovelace's recommendation in the manual was for the supervising RN in the clinical setting be responsible for documenting and verifying mastery of performance competencies. Dr. Williams concurred that this procedure would more likely produce the type of person that the industry needs, and that maybe the employer needs to establish the job performance criteria.

Discussion then turned to teacher/instructor certification. Dr. Lovelace and Dr. Nelson agreed that at the secondary level the instructor as certified by the Texas Education Agency was qualified to teach the cognitive competencies for grades 11 and 12 and that the performance competencies be verified for mastery by the supervising RN in the clinical setting. It was recommended that teacher/instructor qualifications as mandated by the State Licensing Boards be maintained at the postsecondary level. The procedural plan for teacher qualifications/certification as approved by the committee will be submitted to the RN and LVN Licensing Boards for their reaction in the near future.

Nancy Stevenson and Barbara Robertson expressed a concern about other components that should be added to make this project a complete project. Their main concern was to develop performance measures (tests) so as to have a standard evaluation system for all institutions implementing the program.

Dr. Nelson commented that this is a pilot project and there will be "bugs" in it that will need to be worked out. This can be accomplished as the curriculum is implemented and piloted by secondary and postsecondary institutions.

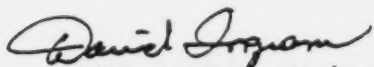
Other concerns were:

- . The curriculum must show a difference in content between the generic and the "2+2" curriculum. The possibility exists that as guidelines are developed for "2+2" programs that an additional advanced skills course might have to be added to the RN curriculum.
- . Dr. Nelson informed the committee that consideration was being given to awarding an advanced associate degree for students completing a "2+2" curriculum.
- . Discussion was held regarding the image and marketing of "2+2" programs. Dr. Nelson stated that Regional "2+2" Workshops would be held during 1990-91 to inform secondary and postsecondary counselors, administrators and postsecondary program personnel benefits of "2+2" programs. Dr. Lovelace stated the image could be changed by business and industry as they see the "2+2" student(s) entering the labor force.

There being no further discussion Ms. Oglesby and Mr. Emery expressed their appreciation to the committee and staff for their efforts and dedication to the project for the past two years. Mr. Ingram also expressed his appreciation to the committee for their input, time and effort and gave special thanks to the staff for their efforts, dedication and loyalty to the project. It was noted that all staff members spent much more time developing the project than their contract specified.

The meeting adjourned at 12:10 p.m.

Respectfully submitted,



David Ingram, Principal Investigator
"2+2" Health Project

APPENDICES B

MATRIX-HEALTH CAREERS I - II

COMPETENCIES AND ESSENTIAL ELEMENTS

HEALTH CAREERS I

ESSENTIAL ELEMENTS

apply concepts of good interpersonal and patient relationships;
 recognize skills and educational requirements for entrance into
 selected health care specialties;
 practice safe procedures for patients, co-workers, and self;
 practice good grooming and personal hygiene as appropriate in
 the health care industry;
 practice ethical and legal behavior and appropriate work habits
 in the work place;
 relate medical asepsis to infection control;
 review current first aid and CPR procedures to be applied in
 emergency situations;
 review techniques and normal parameters of vital signs;
 review and identify anatomy, physiology, and pathophysiology of
 the body systems;
 recognize the components of community health resources;
 convert temperature, weights, and measures to metric systems;
 identify the different systems that finance the cost of health care;
 identify factors of effective working relationships and
 responsibilities to employers and co-workers;
 utilize basic medical terminology relevant to the health care industry;
 demonstrate correct telephone skills;
 utilize or demonstrate communication equipment specific to
 health occupations.
 practice entry level skills and/or observe skills in specific
 health occupations.

Common Essential Elements

Competencies

Medical Terminology for Nurse Aide	Commonly use Medical Abbreviations and Symbols	Simple Anatomy, Physiology and Pathophysiology of Body System	Organizational Structure of Health Care Institutions	Health Care Past and Present	Health Care Specialties	World and Community Organizations	Systems that Finance Health Care	Correct Telephone Skills	Communicates with Patients who Have Sensory Disorders	Personal Reaction to Illness and Disability	Cultural, Religious and Socioeconomic Differences in People	Effective Oral, Written and Non-verbal Communications Skills	Communications with Peers and Supervisor
X	X	X	X	X	X	X	X	X	X	X	X	X	X

HEALTH CAREERS I

ESSENTIAL ELEMENTS

Competencies-continued

Competencies-continued	X	provide psychological support
apply concepts of good interpersonal and patient relationships; recognize skills and educational requirements for entrance into selected health care specialties	X	provide psychological support
practice safe procedures for patients, co-workers, and self; practice good grooming and personal hygiene as appropriate in the health care industry;	X	determine the appropriate method of communication
practice ethical and legal behavior and appropriate work habits in the work place;	X	support team, family, and significant others
relate medical asepsis to infection control;		utilize communication equipment specific to health occupations
review current first aid and CPR procedures to be applied in emergency situations;		use written communication to validate verbal messages
review techniques and normal parameters of vital signs;		define ethical and legal issues
review and identify anatomy, physiology, and pathophysiology of the body systems;		legal responsibilities for health care workers
recognize the components of community health resources;		legal terminology specific to health care
convert temperature, weight, and measures to metric systems;		components of patient's bill of right
identify the different systems that finance the cost of health care;		communicate patient's rights
identify factors of effective working relationships and responsibilities to employers and co-workers;		identify emergency equipment
utilize basic medical terminology relevant of the health care industry;		acquire BCLS Certification AHA Course Standards
demonstrate correct telephone skills;		perform basic first aid
utilize or demonstrate communication equipment specific to health occupations.	X	
practice entry level skills and/or observe skills in specific health occupations.		techniques and skills for employer

Common Essential Elements

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HEALTH CAREERS I

ESSENTIAL ELEMENTS

	Competencies-continued												
	Identify Abnormal and Normal Vital Signs	Techniques for Assessing Vital Signs	Employ Proper Handwashing	Identify and Maintain Types of Isolation	Sterilization and Disinfection Techniques	Maintain Equipment and Supplies	Fire and Tornado Safety Procedures	Transfer/Transport Patient within an Agency	Proper Body Mechanics	Patient's Safety	Position and Turn Patients while Supporting Body	Safe Working Conditions	Components of Metric System
apply concepts of good interpersonal and patient relationships;						X	X	X	X	X	X	X	
recognize skills and educational requirements for entrance into selected health-care specialties													
practice safe procedures for patients, co-workers, and self;													
practice good grooming and personal hygiene as appropriate in the health care industry;													
practice ethical and legal behavior and appropriate work habits in the work place;			X	X	X								
relate medical asepsis to infection control;													
review current first aid and CPR procedures to be applied in emergency situations;	X	X											
review techniques and normal parameters of vital signs;													
review and identify anatomy, physiology, and pathophysiology of the body systems;													X
recognize the components of community health resources;													
convert temperature, weights, and measures to metric systems;													
identify the different systems that finance the cost of health care;													
identify factors of effective working relationships and responsibilities to employers and co-workers;													
utilize basic medical terminology relevant of the health care industry;													
demonstrate correct telephone skills;													
utilize or demonstrate communication equipment specific to health occupations.											X		
practice entry level skills and/or observe skills in specific health occupations.													
Common Essential Elements													

HEALTH CAREERS I

ESSENTIAL ELEMENTS

Competencies-Continued														
	Types and Function of Enemas	Transfer or Discharge out of Agency	Perform Types of Patient Baths	Administer Backrubs	Change Clothing	Assist Patient with Elimination	Measure Height and Weight	Perform Hygienic Care for Skin, Hair, Mouth, Perineum, and Feet	Irrigate Vagina	Label Specimens Collected	Apply Athrombic Hose and Binders	Perform Sugar Acetone Determination	Fundamental of Nutrition	
apply concepts of good interpersonal and patient relationships;														
recognize skills and educational requirements for entrance into selected health care specialties		X												
practice safe procedures for patients, co-workers, and self;														
practice good grooming and personal hygiene as appropriate in the health care industry;														
practice ethical and legal behavior and appropriate work habits in the work place;														
relate medical asepsis to infection control;														
review current first aid and CPR procedures to be applied in emergency situations;														
review techniques and normal parameters of vital signs;												X	X	
review and identify anatomy, physiology, and pathophysiology of the body systems;														
recognize the components of community health resources;							X							
convert temperature, weight, and measures to metric systems;														
identify the different systems that finance the cost of health care;														
identify factors of effective working relationships and responsibilities to employers and co-workers;														
utilize basic medical terminology relevant of the health care industry;														
demonstrate correct telephone skills;														
utilize or demonstrate communication equipment specific to health occupations.	X	X	X	X	X	X	X	X	X	X	X	X	X	
practice entry level skills and/or observe skills in specific health occupations.														
Common Essential Elements														

HEALTH CAREERS I

ESSENTIAL ELEMENTS

	Competencies-continued										
	Characteristics and Responsibilities of Leaders and Group Members	Knowledge of Parliamentary Procedure	Plan and Conduct Leadership Activities	Effective Citizenship in Our Society	Personal Characteristics of Health Care Worker	Personal Appearance of a Health Care Worker	Correctly Make Different Types of Beds	Provide Postmortem Care	Provide Nail Care	Inform Patient About Hospital Surroundings	Feed, Serve and Collect Food Trays
apply concepts of good interpersonal and patient relationships;											
recognize skills and educational requirements for entrance into selected health care specialties											
practice safe procedures for patients, co-workers, and self;					X	X					
practice good grooming and personal hygiene as appropriate in the health care industry;											
practice ethical and legal behavior and appropriate work habits in the work place;											
relate medical asepsis to infection control;											
review current first aid and CPR procedures to be applied in emergency situations;											
review techniques and normal parameters of vital signs;											
review and identify anatomy, physiology, and pathophysiology of the body systems;											X
recognize the components of community health resources;											
convert temperature, weight, and measures to metric systems;											
identify the different systems that finance the cost of health care;											
identify factors of effective working relationships and responsibilities to employers and co-workers;											
utilize basic medical terminology relevant to the health care industry;											
demonstrate correct telephone skills;											
utilize or demonstrate communication equipment specific to health occupations.							X	X	X	X	X
practice entry level skills and/or observe skills in specific health occupations.	X	X	X	X							
Common Essential Elements											

ESSENTIAL ELEMENTS

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ESSENTIAL ELEMENTS

HEALTH CAREERS II		Competencies Continued														
ESSENTIAL ELEMENTS		Vital Signs Significant to Disease Process	Repetition of Vital Signs that are Questionable or Abnormal	Terms related to Asepsis	Defense Mechanisms Against Disease	Infection Agents and Modes of Transmission	Procedures for Infection Control	Rules of Sterile Techniques	Applying Sterile Gloves and Gowns	Administer Range of Motion	Assist with Walking with Support Devices	Convert English and Metric Measurements	Diets related to Alterations in Health	Operate Special Beds	Inventory Patient Possessions	
apply concepts of good interpersonal and patient relationships;																
recognize skills and educational requirements for entrance into selected health care specialties																
practice safe procedures for patients, co-workers, and self;																
practice good grooming and personal hygiene as appropriate in the health care industry;																
practice ethical and legal behavior and appropriate work habits in the work place;																
relate medical asepsis to infection control;				X	X	X	X	X	X							
review current first aid and CPR procedures to be applied in emergency situations;																
review techniques and normal parameters of vital signs;		X	X													
review and identify anatomy, physiology, and pathophysiology of the body systems;																
recognize the components of community health resources;																
convert temperature, weights, and measures to metric systems;												X				
identify the different systems that finance the cost of health care;																
identify factors of effective working relationships and responsibilities to employers and co-workers;																
utilize basic medical terminology relevant of the health care industry;																
demonstrate correct telephone skills;																
utilize or demonstrate communication equipment specific to health occupations.																
Concepts and skills. The student shall be provided the opportunity to learn concepts and skills necessary to the specific occupation being taught.										X	X		X	X	X	

HEALTH CAREERS II

ESSENTIAL ELEMENTS

Competencies Continued

	Store Patient's Possessions in Safe	Patient Restraint Methods	Administer Post-Operative Care	Administer Enemas	Prepare Skin for Aseptic Techniques	Utilize Hot/Cold Therapies	Give Ostomy Care	Insert Rectal Tubes	Admit and Discharge Patient	Sterilize Equipment and Supplies	Perform Beginning Assessment Skills	Care for Patients During Seizures	Complete Inter-departmental Requisitions
apply concepts of good interpersonal and patient relationships;													
recognize skills and educational requirements for entrance into selected health care specialties													
practice safe procedures for patients, co-workers, and self;													
practice good grooming and personal hygiene as appropriate in the health care industry;													
practice ethical and legal behavior and appropriate work habits in the work place;										X			
relate medical asepsis to infection control;													
review current first aid and CPR procedures to be applied in emergency situations;												X	
review techniques and normal parameters of vital signs;													
review and identify anatomy, physiology, and pathophysiology of the body systems;													
recognize the components of community health resources;													
convert temperature, weights, and measures to metric systems;													
identify the different systems that finance the cost of health care;													
identify factors of effective working relationships and responsibilities to employers and co-workers;													
utilize basic medical terminology relevant at the health care industry;													
demonstrate correct telephone skills;													X
utilize or demonstrate communication equipment specific to health occupations.													
Concepts and skills. The student shall be provided the opportunity to learn concepts and skills necessary to the specific occupation being taught.	X	X	X	X	X	X	X	X	X		X	X	

APPENDICES C

PROCEDURAL PLAN FOR TEACHER QUALIFICATION

Procedural Plan for Verification of Competency Mastery at the Secondary Level

Introduction:

The overall goal of this model "2+2" Articulated Health Occupations Project is to develop a training program that will link the last two years of secondary and the first two years of postsecondary training to prepare students for employment in one or more occupations in health careers.

Concerns:

As this project has been developed there have been questions on the part of some postsecondary nursing program personnel, as to the ability of the Non-RN instructors in secondary vocational health occupations programs, being qualified to teach and verify mastery of competencies for the RN curriculum.

This procedural plan outlines the processes for the teaching, testing and verification of mastery for both the cognitive and psychomotor competencies for this model "2+2" Articulated Curriculum for the Registered Nurse.

Curriculum Format:

Basic level knowledge and skills will be taught from a validated list of competencies in grades 11 and 12. These competencies have been assigned to courses on an "easy to difficult", simple to complex arrangement.

The courses that constitute the RN curriculum are established on the career-ladder concept; in that students must complete the courses in sequences, or take concurrently and demonstrate mastery of the competencies in each course(s) before moving on the next level. The curriculum is designed to provide exit points for the nurse aide (grade 12) and the LVN (Grade 13).

Methods of Instruction

Instructional modes will consist of the following:

1. Classroom lecture/audio/guest professional speakers
2. Classroom laboratory
3. Individualized study
4. Clinical rotation and/or cooperative (grade 11)
5. Clinical supervision and/or cooperative (grade 12)

Validating Mastery of Competencies:

Competencies in the basic course outlines have been identified as knowledge (cognitive) and performance (psychomotor).

It is recommended that the secondary health careers instructor, as certified by the Texas Education Agency, teach and administer the knowledge tests and verify mastery of the cognitive competencies on the individual student competency profile.

The performance or psychomotor competencies are to be verified for mastery utilizing the performance evaluation criteria by the clinical or cooperative supervising nurse, which will be recorded on the individual student competency profile.

The individual student competency profile will become a part of the student's "2+2" cumulative file and will move with the student as she/he moves to the next sequential course.

Rationale:

Secondary health careers instructors meeting the Texas Education Agency certification requirements for the Provisional Vocational Health Occupations certificate have the knowledge and expertise to teach and verify mastery of the basic cognitive concepts, skills and theories as defined for the grade 11 and 12 secondary courses.

Performance Evaluation Criteria

Terminal Performance Objective:

Performs competency with accuracy or prescribed specifications	Satisfactory	Unsatisfactory
Performs competency within appropriate time period	Satisfactory	Unsatisfactory
Demonstrates knowledge required for performing competency	Satisfactory	Unsatisfactory
Observes all safety procedures	Satisfactory	Unsatisfactory
Complies with ethics of profession	Satisfactory	Unsatisfactory
Demonstrates problem solving abilities	Satisfactory	Unsatisfactory
Uses appropriate equipment/supplies	Satisfactory	Unsatisfactory
Uses equipment/supplies correctly	Satisfactory	Unsatisfactory

Student(s) must receive a satisfactory rating on all criteria to demonstrate mastery.

Comments:

Supervisor's Signature

Date

APPENDICES D

QUARTERLY REPORTS

Q U A R T E R L Y R E P O R T

For The Period July 1, 1989 Through September 30, 1989

2+2 ARTICULATED HEALTH OCCUPATIONS PROJECT

Submitted By: Kenneth Emery, Project Co-Director
Director of Vocational Education
Paris Independent School District
139-909-002

Sponsored Cooperatively By
Texas Education Agency
and
Texas Higher Education Coordinating Board

Contractors: Paris Independent School District
Paris Junior College

Date: 10-10-89

Project No.: Not Yet Assigned

Major Project Activities

The project staff has completed the basic curriculum outline for the occupation of Registered Nurse and subordinate occupations of Licensed Vocational Nurse and Nurse Aide. A line drawing of a recommended facility, along with a recommended list of supplies and equipment, was prepared and was submitted to the Technical Advisory Committee for approval on September 27, 1989. Competencies and course modules have been identified for Health Careers I (Grade 11) and Health Careers II (Grade 12).

Significant Accomplishments

- . Curriculum for Registered Nurse and subordinate occupations of Licensed Nurse and Nurse Aide has been developed.
- . Nurse Aide competencies will be taught at the 11th grade, which will make these students eligible to sit for the Texas Department of Health Nurse Aide examination, should they choose to exit from the 2+2 Curriculum at the 11th or 12th grade. (Each secondary school must make application to the Texas Department of Health for approval to offer the Nurse Aide program.)
- . Recommended facility and equipment/supply list approved by the Technical Advisory Committee.
- . Course modules and competencies identified for both 11th and 12th grade courses.

Problems Encountered

One staff member resigned from the project and one other staff member moved from Paris to another district, which caused some delay in the on-going activities. A replacement for the person that resigned has been employed and work on the project activities are continuing.

The project staff, co-directors and state agency advisers are still working with the appropriate personnel from the Board of Nurse Examiners For the State of Texas, regarding licensure and program sanction.

With the problems encountered, as listed above, there have been no major departures from the original specifications and objectives of the original project contract.

Data Collection

The occupations identified by the survey taken of Health Care providers in the Northeast Texas area identified the occupations of Registered Nurse, Medical Laboratory Technician, Radiology Technician, and Physical Therapy Assistant. These are true 2+2 programs that require two years of post-secondary instruction, and lead to an Associate Degree and/or Licensure or Certification.

Data Collection - Cont'd.

Subordinate occupations that will be built into the curriculum for which students will have a saleable skill upon completion of Grade 12 are: Nurse Aide (Grade 11), Phlebotomist, Emergency Medical Technician-Basic, Medical Assisting and Medical Office-Clerical.

The Licensed Vocational Nurse will be eligible for exit at the end of Grade 13, and sit for the National Council Licensure Examination for Practical Nurses.

Evaluation Procedures

- . Program installation evaluation is an observation of project activity as it compares with the program standards for each task constituting Stage One.
- . Process evaluation, State Two, enlists the aid of program staff in flow charting the relationship between objectives and tasks.
- . Product evaluation, Stage Three, utilizes the traditional experimental design to determine if the project achieved its objectives.
- . External evaluation of the project will be done by a Third Party Evaluator.

Staff Employed

David Ingram	- Principal Investigator
Bill Lovelace	- Instructional Design Specialist
Barbara Robertson	- Secondary Curriculum Specialist/Writer
Nancy Stevenson	- Secondary Curriculum Consultant/Writer
Linda Campbell	- Postsecondary Curriculum Consultant / Writer
Gaylon Maddox	- Postsecondary Curriculum Consultant/Writer
Sara Barnett	- Third Party Evaluator

Future Activities

- . Work is in progress on the development of the basic course outline for the secondary and postsecondary courses.
- . Work is in progress on the identification of a secondary and postsecondary student tracking system.
- . The development of a basic curriculum outline for the occupations of: Physical Therapy Assistant, Medical Laboratory Technician, and Radiology Technician, is in progress.

Q U A R T E R L Y R E P O R T

For the Period October 1, 1989 Through December 30, 1989

2+2 Articulated Health Occupations Project

Submitted By: Kenneth Emery, Project Co-Director
Director of Vocational Education
Paris Independent School District-139-909

Sponsored Cooperatively By:
Texas Education Agency
and
Texas Higher Education Coordinating Board

Contractors: Paris Independent School District
Paris Junior College

Date: 1-19-90

Project No.: 00420048-58

Major Project Activities

The project staff has completed the basic course outlines for Health Careers I (Grade 11) with work in progress and nearing completion for basic course outlines for Health Careers II (Grade 12) and the postsecondary courses for the Registered Nurse curriculum.

A master list of competencies has been identified for the occupations of Radiology Technician, Physical Therapy Assistant and Medical Laboratory Technician.

Significant Accomplishments

- . Curriculum for Registered Nurse revised with the deletion of the nutrition course (nutrition competencies to be taught as "Strands or Threads" in the regular nursing courses). Added a four semester hour course of General Chemistry to the RN curriculum. (69 semester hours RN curriculum and 39 semester hours LVN curriculum.)
- . Provided for four hours of escrow credit for those students who complete the 2+2 secondary curriculum. The four hours will be awarded to the student(s) upon completion of two upper level courses of the postsecondary curriculum. The four hours of escrow credit is provided for both the RN and the LVN program.
- . Developed a flow chart indicating the sequence of courses to be taken in the RN program, with the exit points indicated for the nurse aide and Licensed Vocational Nurse.
- . Revised Health Careers I and II course descriptions to include a broader description of the content to be taught.
- . Developed a matrix matching the essential elements with the competencies as identified for Health Careers I.
- . Drafted and submitted to the Technical Advisory Committee a philosophy and conceptual framework for the 2+2 Articulated RN Program.

Note: The above accomplishments and/or revisions were presented and approved by the Technical Advisory Committee.

Problems Encountered

No new problems encountered -- still working with licensing agencies to ensure that project content and activities do not violate established state rules and regulations.

There have been no departures from the original contract objectives and specifications.

Data Collection:

Validated list of competencies have been obtained from the U. S. Air Force Occupational Measurement Center and the Vocational-Technical Education Consortium of States (V-TECS) for the occupations of Medical Laboratory Technician, Radiology Technician and Physical Therapy Assistant.

The staff will further refine these competencies and develop the basic curriculum outlines for these occupations, indicating the subordinate occupations for which students will have a saleable skill upon completion of Grade 12.

Evaluation Procedures:

- . Program installation evaluation is an observation of Project Activity as it compares with the program standards for each task constituting Stage One.
- . Process evaluation, Stage Two, enlists the aid of program staff in flow charting the relationship between objectives and tasks.
- . Product evaluation, Stage Three, utilizes the traditional experimental design to determine if the project achieved its objectives.
- . External evaluation of the project will be done by a Third Party Evaluator.

Staff Employed:

David Ingram	-	Principal Investigator
Bill Lovelace	-	Instructional Design Specialist
Barbara Robertson	-	Secondary Curriculum Specialist/Writer
Nancy Stevenson	-	Secondary Curriculum Specialist/Writer
Linda Campbell	-	Postsecondary Curriculum Consultant/Writer
Gaylon Maddox	-	Postsecondary Curriculum Consultant/Writer
Sara Barnett	-	Third Party Evaluator

Future Activities:

- . Continue with the development of the basic course outlines for the secondary and postsecondary Registered Nurse curriculum.
- . Continue with the development of the basic curriculum outlines for the occupations of Physical Therapy Assistant, Radiology Technician and Medical Laboratory Technician.
- . Continue with the development of an appropriate student tracking and monitoring system for 2+2 programs.

QUARTERLY REPORT

For The Period January 1, 1990 Through March 30, 1990

2+2 Articulated Health Occupations Project

Submitted By: Kenneth Emery, Project Co-Director
Director, Vocational Education
Paris Independent School District

Sponsored Cooperatively By:

Texas Education Agency
and
Texas Higher Education Coordinating Board

Contractors: Paris Independent School District
Paris Junior College

Date: April 18, 1990

Project No: 00420048-58

Major Project Activities:

Basic course outlines have been completed for Health Careers I (Grade 11) and Health Careers II (Grade 12). Grade 11 curriculum is being field tested in the Marshall, Paris and Atlanta ISD's.

A matrix showing comparison of competencies to essential for grades 11 and 12 has been developed.

Basic curriculum outlines for Radiology Technician, Medical Laboratory Technician and Physical Therapy Assistant are nearing completion.

Significant Accomplishments:

Contracted with program staff at McLennan Community College to develop basic curriculum outlines for Radiology Technicians, Physical Therapy Assistant and Medical Laboratory Technician. They will work with our secondary staff, Ms. Nancy Stevenson and Ms. Barbara Robertson in developing grade 11 and 12 curriculum outlines for these three programs.

Held an advisory committee meeting on March 30, 1990. The following items were approved by the committee:

1. Amended the Registered Nurse curriculum to read that Chemistry and Entry Info Vocational Practice either/or both could be taken during the summer between the Freshman and Sophomore year.

2. Presented a Procedural Plan for Verification of Competency Mastery by a non-RN secondary Health Occupations instructor.

3. Presented an instrument for determining performance evaluation criteria for beginning level employees.

4. Presented samples of secondary and post-secondary basic course outlines.

5. Recommended that Nurse Aide competencies be taught in grades 11 and 12 rather than in grade 11 as previously recommended.

Informed the committee of the 2+2 Articulated Health

Occupations workshop on the RN curriculum to be conducted on May 4, 1990, on the Paris Junior College campus. (Brochure is enclosed regarding workshop.)

Problems Encountered:

. Some problems in getting project staff together due to personal illness and/or death in the family. However, they are doing their homework and submitting their assignments (tasks and activities) as they are completed.

. Working with state licensing boards and state education agencies (CB & TEA) to ensure that project content does not violate established state rules and regulations.

. There have been no departures from original contract objectives and specifications.

Data Collections:

. Competencies for the MCT, PTA and Radiology Technicians are being identified and placed in the various courses, grade 11 through 14, in an easy to difficult, simple to complex sequence.

. Research the literature for instruments for determining performance evaluation criteria for beginning level employees.

Evaluation Procedures:

. Program installation evaluation is an observation of Project Activity as it compares with the program standards for each task constituting Stage One.

. Process evaluation, Stage Two, enlists the aid of program staff in flow charting the relationship between objectives and tasks.

. Product evaluation, Stage Three, utilizes the traditional experimental design to determine if the project achieved its objectives.

. External evaluation of the project will be done by a Third Party Evaluator.

Staff Employed:

- . Sara Barnett - Third Party Evaluator
- . Linda Campbell - Postsecondary Curriculum
Consultant/Writer
- . Brenda Dobelbower - Postsecondary Curriculum
Consultant/Writer
- . David Ingram - Principal Investigator
- . Bill Lovelace - Instructional Design Specialist
- . Gaylon Maddox - Postsecondary Curriculum
Consultant/Writer
- . Barbara Robertson - Secondary Curriculum
Specialist/Writer
- . Nancy Stevenson - Secondary Curriculum
Specialist/Writer
- . Winfred Watkins - Postsecondary Curriculum
Consultant/Writer

Future Activities:

- . Continue with the development of the basic curriculum outlines for the PTA, MCT and Radiology Technician programs.
- . Begin editing and arranging the completed products which will be included in the Final Report/Final Product.
- . Conduct "2+2" Articulated Health Occupations workshop for the RN Curriculum for Regional Secondary and Postsecondary personnel.
- . Work with Texas Education Agency and Coordinating Board on processes and procedures for submitting this model "2+2" Articulated Curriculum for approval as an experimental course(s).

Q U A R T E R L Y R E P O R T

For the Period April 1, 1990 Through June 30, 1990

2+2 Articulated Health Occupations Project

Submitted by: Kenneth Emery, Project Co-Director
Director, Vocational Education
Paris Independent School District

Sponsored Cooperatively by: Texas Education Agency
and
Texas Higher Education Coordinating Board

Contractors: Paris Independent School District
Paris Junior College

Date: June 23, 1990

Project No.: 00420048-58

Project Activities:

- . Technical Advisory Committee convened on June 14, 1990. The following tasks and activities were presented and approved to be included in the final product/final report.
 - ..Overview of the 2+2 Health Occupations Curriculum
 - ..Philosophy and conceptual framework
 - ..Basic curriculum outline for nursing curriculum
 - ..Basic course outline for nursing curriculum
 - ..Line drawing of facilities for secondary and post-secondary programs
 - ..Recommended list of supplies and equipment for secondary and post-secondary programs
 - ..Student competency profiles for nursing courses
 - ..Matrix of essential elements relating to competencies
 - ..Procedural plan for verifying mastery of competencies
 - ..Draft copy of "2+2" How-To-Manual
 - ..Basic curriculum outline for the occupations of physical therapy assistant, medical laboratory technician, and radiological technologist

Evaluation:

- . Evaluation process of project activities has been completed by the Third Party Evaluator and will be included in the final report.

Summation:

- . The basic curriculum outlines and basic course outlines are presently being compiled into books for grades 11, 12, 13, and 14 for final printing. The 2+2" How-To-Manual is being printed for dissemination to appropriate organizations and institutions. All goals and objectives as per contract specifications have been met and all tasks and activities will be included in the final product/final report. Final product/final report will be completed by August 15, as per the timeline. Approval for final printing was granted by Project Advisor, Dr. Carrie Nelson, following her review of the draft copies of all products.

APPENDICES E
COMPETENCIES

PHYSICAL THERAPY AIDE

PHYSICAL THERAPY ASSISTANT

PROFILE OF COMPETENCIES
for
PHYSICAL THERAPY AIDE AND PHYSICAL THERAPIST ASSISTANT

	Aide	PTA
1. Demonstrate a knowledge of medical terminology	X	X
2. Demonstrate an understanding of the meaning of commonly used medical symbols/abbreviations	X	X
3. Define medical terminology related to body systems	X	X
4. Define medical terminology related to physical therapy	X	X
5. Utilize common abbreviations and symbols in written communication	X	X
6. Identify simple anatomy, physiology and pathophysiology of the human body	X	X
7. Identify specific anatomy, physiology and pathophysiology related to the musculoskeletal, nervous, cardiovascular and respiratory systems	X	X
8. Discuss health care - past and present	X	X
9. Identify health care specialties	X	X
10. Discuss health care hierarchy	X	X
11. Discuss the history of physical therapy	X	X
12. Describe the organization of a typical physical therapy department	X	X
13. Discuss current and future trends in health care	X	X
14. Identify worldwide and community health organizations	X	X
15. Identify systems that finance health care	X	X
16. Identify and support philosophies of health care	X	X
17. Describe the basic types of communication	X	X
18. Discuss appropriate and effective communication skills (written, verbal and nonverbal)	X	X
19. Develop appropriate and effective written, verbal and nonverbal communication skills	X	X
20. Identify personal reaction to illness or disability	X	X

	Aide	PTA
21. Interpret personal reaction to illness or disability	X	X
22. Identify individual personal cultural, religious and socioeconomic differences in people	X	X
23. Identify ways to communicate to patients with sensory disorders	X	X
24. Determine own strengths and limitations	X	X
25. Provide psychological support	X	X
26. Discuss effective modes of communication with peers and supervisors	X	X
27. Discuss effective modes of communication with patients having difficulties	X	X
28. Translate a medical term into a language that a patient can understand	X	X
29. Utilize or demonstrate communication equipment specific to health occupations	X	X
30. Use written communication to validate verbal messages	X	X
31. Utilize correct telephone skills	X	X
32. Demonstrate method for obtaining preliminary information on new patients	X	X
33. Identify procedure for scheduling patients	X	X
34. Describe methods of filing, removing and replacing patient charts	X	X
35. Describe methods of screening incoming telephone calls	X	X
36. Complete departmental office forms	X	X
37. Identify methods of storing files on computer filing systems	X	X
38. List the differences between a conventional medical record, a Problem Oriented Medical Record and an SOAP medical record	X	X
39. Define health insurance terms	X	X
40. Identify major components of fee schedules	X	X
41. Contrast and compare ethics and law	X	X
42. Describe legal responsibilities for health care workers	X	X

	Aide	PTA
43. Define legal and ethical issues	X	X
44. Identify components of patient's rights	X	X
45. Communicate patient's rights	X	X
46. Demonstrate knowledge of legal guidelines and responsibilities for the physical therapy aide	X	X
47. Identify methods of decreasing likelihood of legal problems	X	X
48. Define legal terminology related to health care	X	X
49. Become familiar with ethical, moral and cultural ideologies common in today's society	X	X
50. Report questionable activities of self and others to supervisors	X	X
51. Discuss desirable personal characteristics of a health care worker	X	X
52. Demonstrate appropriate personal appearance	X	X
53. Identify skills, characteristics and responsibilities of leaders and effective group members	X	X
54. Demonstrate skills, characteristics and responsibilities of leaders and effective group members	X	X
55. Demonstrate a knowledge of parliamentary procedure	X	X
56. Plan and conduct leadership activities	X	X
57. Identify basic emergency equipment	X	X
58. Acquire BLS certification	X	X
59. Maintain BLS certification	X	X
60. Demonstrate and perform basic first aid	X	X
61. Identify the fundamentals of nutrition	X	X
62. Identify common diets related to health conditions	X	X
63. Identify normal vital signs	X	X
64. Describe procedure for measuring vital signs	X	X
65. Perform proper procedure for measuring vital signs	X	X
66. Demonstrate repetition of vital signs that are questionable or abnormal	X	X
67. Demonstrate proper handwashing technique	X	X
68. Identify types of isolation	X	X

	Aide	PTA
69. Explain the difference between sanitization, disinfection and sterilization.	X	X
70. Identify sanitization, disinfection and sterilization techniques	X	X
71. Demonstrate and maintain isolation procedures	X	X
72. Apply sterile gloves and gowns	X	X
73. Maintain a sterile field	X	X
74. Demonstrate proper disposal of contaminated materials	X	X
75. Identify basic medical equipment and supplies	X	X
76. Identify physical therapy equipment	X	X
77. List the functions of physical therapy equipment	X	X
78. Demonstrate a basic knowledge of body mechanics	X	X
79. Demonstrate safety awareness at all times and in all situations	X	X
80. Demonstrate safe patient transfers	X	X
81. Transfer/transport patients within a facility	X	X
82. Demonstrate proper methods of positioning and draping a patient	X	X
83. Describe safe working conditions	X	X
84. Assist patient in and out of bed	X	X
85. Inform patient about hospital surroundings	X	X
86. Provide for patient privacy	X	X
87. Identify types of ambulation devices and how each is adjusted	X	X
88. Demonstrate procedure for preparing a patient for treatment	X	X
89. Demonstrate procedure for preparing equipment for use	X	X
90. Describe types of exercises utilized in physical therapy	X	X
91. Prepare patient treatment areas	X	X
92. Assist with exercise or ambulation as directed	X	X

	Aide	PTA
93. Maintain adequate level of supplies	X	X
94. Demonstrate proper body mechanics	X	X
95. Demonstrate knowledge of fire, tornado, and/or disaster safety procedures	X	X
96. Demonstrate basic understanding of policies and procedures	X	X
97. Provide physical therapy services as specified in the plan of care developed by the physical therapist		X
98. Prepare patients, treatment areas and equipment		X
99. Implement treatment programs that include:		
a. therapeutic exercise - relaxation, strengthening, ROM, endurance facilitation		X
b. gait training and techniques		X
c. ADL training techniques		X
d. administration of therapeutic heat and cold - paraffin, hot packs, hydrotherapy, infrared, diathermy, ice		X
e. administration of ultrasound		X
f. administration of therapeutic electric current		X
g. administration of ultraviolet		X
h. application of traction		X
i. performance of intermittent venous compression		X
j. administration of pulmonary hygiene techniques		X
k. application of external bandages, dressings, and support		X
l. evaluation techniques - goniometry, muscle testing, posture, reflexes and development, ADL		X
m. massage techniques		X
n. wound debridement		X
100. Respond to acute changes in physiological state		X
101. Teach other health care providers, patients, and families to perform selected treatment procedures and functional activities		X

	Aide	PTA
102. Identify architectural barriers		X
103. Interact with patients and families in a manner which provides the desired psycho-social support by:		
a. recognizing his own reaction to illness and disability		X
b. recognizing patients' and families' reactions to illness and disability		X
c. respecting individual cultural, religious, and socioeconomic differences in people		X
d. utilizing appropriate communicative processes		X
104. Demonstrate appropriate and effective written, oral and nonverbal communication with patients and their families, colleagues, and the public		X
105. Recognize his own strengths and limitations and interpret for others his scope and function		X
106. Demonstrate safe, ethical and legal practice		X
107. Understand basic concepts related to the health care system including multidisciplinary team approach, quality care, governmental agencies, private sector, role of other health care providers, health care facilities, issues and problems		X
108. Understand basic principles of levels of authority and responsibility, planning, time management, supervisory process, performance evaluations, policies and procedures, and fiscal consideration (provider and consumer)		X

OCCUPATION: PHYSICAL THERAPY AIDE

JOB DESCRIPTION:

The physical therapy aide works under the supervision of the physical therapist or physical therapist assistant as a support personnel. In helping to provide patient care, the physical therapy aide may support physical therapy activities within the scope of their training and with on-site supervision. The aide will:

- prepare treatment areas for use by the physical therapist or assistant
- prepare patients for treatment to be administered by the physical therapist or assistant
- assist with exercise or ambulation as directed
- perform office duties as directed
- perform other duties related to physical therapy within the scope of training

CURRICULUM OBJECTIVE:

The curriculum is designed to provide the physical therapy aide with the basic knowledge needed to work within the physical therapy setting. On-the job training may be required to provide the aide with specific skills required in any particular physical therapy setting.

PREPARATORY COURSES:

Secondary Courses:

- Health Careers I
- Health Careers II

Other courses as determined by the student, parent and counselor.

OCCUPATION: PHYSICAL THERAPIST ASSISTANT

JOB DESCRIPTION:

The physical therapist assistant, as a technical health care provider, works closely with the physical therapist in providing patient care. The PTA will:

- prepare and treat patients according to the direction of a licensed physical therapist
- administer modalities and treatments according to the treatment plan established by the physical therapist
- alter patient treatment **within the specified goals and boundaries**
- interpret for other the scope and function of the physical therapist assistant
- understand basic principles of levels of authority and responsibility
- recognize his/her own strengths and limitations
- educate patients and family members
- maintain accurate patient records approved by the physical therapist
- supervise physical therapy aides

CURRICULUM OBJECTIVE:

The curriculum is designed to prepare the graduate to provide physical therapy services as specified by a physical therapist in a competent and efficient manner. The graduate will be eligible for the Texas State Board of Physical Therapy Examiner's licensure examination.

PREPARATORY COURSES:

Secondary Courses:

- Health Careers I (Grade 11)
- Health Careers II (Grade 12)

Secondary Prerequisites for PTA Program:

- Algebra I and II
- Biology I and II
- Chemistry
- Physics

Post-Secondary Courses:

- Introduction to Physical Therapist Assisting
- Applied Kinesiology
- Physical Therapy Modalities
- Pathophysiology
- Therapeutic Exercise
- Rehabilitation Concepts
- Clinical Practicums I, II, and III

Post-Secondary Support Courses:

General Psychology
Medical Terminology
Anatomy and Physiology I and II
Freshman English I and II
Computer Literacy
College Algebra
Human Growth and Development

PTA
SECONDARY COURSE TITLES AND DESCRIPTIONS

HEALTH CAREERS I:

This is a one-year course within the secondary institution that focuses on basic knowledge and skills related to health care. Topics include medical terminology, communication, ethics, leadership skills, personal attributes, and patient care skills. Clinical experience is provided in a variety of health care areas.

HEALTH CAREERS II:

This course continues to build upon the knowledge and skills gained during the first course. Skills from Health Careers I must be mastered before enrolling in this course. Topics include medical terminology related to physical therapy, anatomy and physiology of systems most relevant to physical therapy, and specific physical therapy patient care skills. Also included are communication, ethical and legal issues, history of health care and physical therapy, first aid and nutrition. Clinical experience is provided in a physical therapy setting.
(Prerequisite: satisfactory completion of Health Careers I)

Upon completion of this course, students may exit to pursue the occupation of physical therapy aide, or they may articulate to the postsecondary level to pursue further training as a physical therapist assistant.

PTA
SECONDARY COURSES

HEALTH CAREERS I:

This course is designed as a core course for PTA, MLT, and Radiologic Technologist in combination. The common core curriculum consists of:

- Medical Terminology
- Anatomy and Physiology
- History of Health Care
- Communication Skills
- Office Skills
- Ethical-Legal Aspects
- Personal and Leadership Skills
- First Aid/Emergency Care
- Patient Care Skills

General clinical rotations in the different health care areas

HEALTH CAREERS II:

This course is more specific to the health care field, and will relate each of the above topics to physical therapy. Clinical rotations will be more specialized in one, or perhaps two, of the health care areas.

Exit Competencies: Physical therapy aide
Medical office assistant

COMPETENCIES FOR HEALTH CAREERS I
PTA

I. Medical Terminology

Demonstrate a knowledge of medical terminology:
Demonstrate an understanding of the meaning of commonly used medical symbols and abbreviations

II. Anatomy and Physiology

Identify simple anatomy, physiology and pathophysiology of the human body

III. History of Health Care

Discuss health care - past and present
Identify health care specialties
Discuss health care hierarchy

IV. Communication Skills

Describe the basic types of communication:
Discuss appropriate and effective communication skills (written, verbal and nonverbal)
Identify personal reaction to illness or disability
Identify individual cultural, religious and socioeconomic differences in people
Identify ways to communicate to patients with sensory disorders
Determine own strengths and limitations
Utilize or demonstrate communication equipment specific to health occupations
Use written communication to validate verbal messages

V. Office Skills

Utilize correct telephone skills
Demonstrate method for obtaining preliminary information on new patients
Identify procedure for scheduling patients
Describe methods of filing, removing and replacing patient charts

VI. Ethical and Legal Aspects

Contrast and compare ethics and law
Describe legal responsibilities for health care workers
Identify components of patient's rights
Communicate patient's rights
Identify methods of decreasing likelihood of legal problems
Define legal terminology related to health care

VII. Personal and Leadership Skills

Discuss desirable personal characteristics of a health care worker
 Demonstrate appropriate personal appearance
 Identify skills, characteristics and responsibilities of leaders and effective group members
 Demonstrate a knowledge of parliamentary procedures

VIII. First Aid and Emergency Care

Identify basic emergency equipment
 Acquire BLS certification
 Demonstrate and perform basic first aid

IX. Patient Care Skills

Identify normal vital signs
 Describe procedure for measuring vital signs
 Perform proper procedure for measuring vital signs
 Demonstrate proper handwashing technique
 Identify types of isolation
 Explain the difference between sanitization, disinfection and sterilization
 Identify sanitization, disinfection and sterilization techniques
 Demonstrate proper disposal of contaminated materials
 Identify basic medical equipment and supplies
 Demonstrate a basic knowledge of body mechanics
 Demonstrate safety awareness at all times and in all situations
 Demonstrate safe patient transfers
 Transfer/transport patient within a facility
 Demonstrate proper methods of positioning and draping a patient
 Describe safe working conditions
 Assist patient in and out of bed
 Inform patient about hospital surroundings
 Provide for patient privacy

PTA
SECONDARY COURSE TITLES AND DESCRIPTIONS

HEALTH CAREERS I:

This is a one-year course within the secondary institution that focuses on basic knowledge and skills related to health care. Topics include medical terminology, communication, ethics, leadership skills, personal attributes, and patient care skills. Clinical experience is provided in a variety of health care areas.

HEALTH CAREERS II:

This course continues to build upon the knowledge and skills gained during the first course. Skills from Health Careers I must be mastered before enrolling in this course. Topics include medical terminology related to physical therapy, anatomy and physiology of systems most relevant to physical therapy, and specific physical therapy patient care skills. Also included are communication, ethical and legal issues, history of health care and physical therapy, first aid and nutrition. Clinical experience is provided in a physical therapy setting.
(Prerequisite: satisfactory completion of Health Careers I)

Upon completion of this course, students may exit to pursue the occupation of physical therapy aide, or they may articulate to the postsecondary level to pursue further training as a physical therapist assistant.

COMPETENCIES FOR HEALTH CAREERS II
PTA

I. Medical Terminology

Define medical terminology related to body systems
Define medical terminology related to physical therapy
Utilize common abbreviations and symbols in written communication

II. Anatomy and Physiology

Identify specific anatomy, physiology and pathophysiology related to:

- a. the musculoskeletal system
- b. the nervous system
- c. the cardiovascular system
- d. the respiratory system

III. History of Health Care/Physical Therapy

Discuss the history of physical therapy
Describe the organization of a typical physical therapy department
Discuss current and future trends in health care
Identify worldwide and community health organizations
Identify systems that finance health care
Identify and support philosophies of health care

IV. Communication Skills

Develop appropriate and effective written, verbal and nonverbal communication
Obtain guidance for difficult communication
Interpret personal reaction to illness or disability
Provide psychological support
Discuss effective modes of communication with peers and supervisors
Translate a medical term into a language that a patient can understand
Discuss effective modes of communication with patients having difficulties

V. Office Skills

Describe methods of screening incoming telephone calls
Complete departmental office forms
Identify methods of storing files on computer filing systems
List the differences between a conventional medical record, a Problem Oriented Medical Record, and an SOAP medical record
Define health insurance terms
Identify major components of fee schedules

VI. Ethical and Legal Aspects

Define legal and ethical issues
Demonstrate knowledge of legal guidelines and responsibilities for the physical therapy aide

Report questionable activities of self and others to supervisors
 Become familiar with ethical, moral and cultural ideologies common
 in today's society

VII. Personal and Leadership Skills

Demonstrate skills, characteristics and responsibilities of leaders
 and effective group members
 Plan and conduct leadership activities

VIII. First Aid and Emergency Care

Maintain BLS certification

IX. Nutrition

Identify the fundamentals of nutrition
 Identify common diets related to health conditions

X. Patient Care Skills

Demonstrate repetition of vital signs that are questionable or
 abnormal
 Demonstrate and maintain isolation procedures
 Apply sterile gloves and gowns
 Maintain a sterile field
 Identify physical therapy equipment
 List the functions of physical therapy equipment
 Identify types of ambulation devices and how each is adjusted
 Demonstrate procedure for preparing a patient for treatment
 Demonstrate procedure for preparing equipment for use
 Describe types of exercise utilized in physical therapy
 Prepare patient treatment areas
 Assist with exercise or ambulation as directed
 Maintain adequate level of supplies
 Demonstrate proper body mechanics

XI. Other

Demonstrate knowledge of fire, tornado and/or disaster safety
 procedures
 Demonstrate basic understanding of policies and procedures

2 + 2 ARTICULATED
PHYSICAL THERAPIST ASSISTANT PROGRAM

PROPOSED PTA CURRICULUM: POST-SECONDARY

<u>Freshman Year</u>			
	Lecture	Lab/Clin.	Credit
<u>Fall Semester</u>			
Introduction to Physical Therapist Assisting (2+2)	1	1	1
Introduction to Physical Therapist Assisting (non 2+2)	3	3	4
Anatomy and Physiology I	4	2	4
Medical Terminology	3	0	3
Applied Kinesiology	3	3	4
	<u>11*/13</u>	<u>6*/8</u>	<u>12*/15</u>
<u>Spring Semester</u>			
Physical Therapy Modalities	4	4	5
Anatomy and Physiology II	4	2	4
Pathophysiology	3	0	3
Freshman English I	3	0	3
	<u>14</u>	<u>6</u>	<u>15</u>
<u>Summer</u>			
Therapeutic Exercise	3	3	4
Clinical Practicum I	0	9	3
General Psychology	3	0	3
	<u>6</u>	<u>12</u>	<u>10</u>
<u>Sophomore Year</u>			
<u>Fall Semester</u>			
Clinical Practicum II	3	15	8
Freshman English II	3	0	3
College Algebra	3	0	3
Computer Literacy	1	1	1
	<u>10</u>	<u>16</u>	<u>15</u>
<u>Spring Semester</u>			
Clinical Practicum III	3	15	8
Rehabilitation Concepts	4	0	4
Human Growth and Development	3	0	3
	<u>10</u>	<u>15</u>	<u>15</u>
TOTAL CREDIT HOURS:			70

*Three semester hours of credit will be held in escrow for students who have completed Health Careers I and II at the secondary level and will be placed on the student's transcript upon successful of courses through Clinical Practicum I.

COURSE DESCRIPTIONS: PTA

Introduction to Physical Therapist Assisting

A 4-hour course focusing on procedures related to basic patient care skills, patient safety and mobility, and beginning problem-solving skills. Provides an overview of the medical specialty of physical therapy, the historical development, and emphasizes the role and responsibility of the physical therapist assistant. (3 lecture/3 lab)

Applied Kinesiology

A 4-hour course that presents anatomy and motion as applied to physical therapy. The biomechanics of human motion, gait, manual muscle testing and goniometry are included. (3 lecture/3 lab)

Pathophysiology

A 3-hour course dealing with the pathological conditions resulting from disease, disorders, or injuries that are commonly encountered in physical therapy. Etiology, symptoms, and treatments are discussed, as well as the interrelationship between these conditions and human movement/behavior. (3 lecture)

Physical Therapy Modalities

A 5-hour course that examines the principles and practices of physical therapy and the therapeutic modalities that are utilized. Emphasis is placed on the physical, chemical and anatomical basis for physical therapy procedures. (4 lecture/4 lab)

Therapeutic Exercise

A 4-hour course focusing on the principles and techniques of therapeutic exercise, including the equipment employed and the application to patients with various disabilities. Techniques and modalities utilized in conjunction with teaching functional activities are emphasized. (3 lecture/3 lab)

Rehabilitation Concepts

A 4-hour course that explores the trends in rehabilitation, including patient trends, the professional organization, legal and ethical implications, and recent legislation. (4 lecture)

Clinical Practicum I

A 3-hour course which provides supervised clinical experience in various health care settings. Emphasis is placed on development of skills and techniques learned during the first year of the program, as well as developing good communication and interpersonal skills. (9 clinical)

Clinical Practicum II

An 8-hour course that continues in progressive exploration and skill development with supervision in various health care settings. Lecture topics include human development, tests and measurements, and basic principles/techniques of facilitating responses desired in the performance of therapeutic exercise. (3 lecture/15 clinical)

Clinical Practicum III

An 8-hour course that focuses on developing the proficiencies of a graduate physical therapist assistant in the clinical setting. Lecture topics include application of various physical therapy principles to common disorders encountered in the clinic, as well as introduction to advanced techniques utilized in physical therapy. (3 lecture/15 clinical)

APPENDICES F

COMPETENCIES

PHLEBOTOMIST

MEDICAL LABORATORY TECHNICIAN

PHLEBOTOMY

77 94

	Phleb	MLT
32. Identify abnormal and normal vital signs.	*	*
33. Perform and document vital signs.	*	*
34. Employ proper handwashing technique.	*	*
35. Identify and maintain the various isolation techniques.	*	*
36. Conduct concurrent and terminal disinfection.	*	*
37. Perform sterilization and disinfection methods.	*	*
38. Maintain equipment and supplies.	*	*
39. Discuss fire and foul weather safety procedures.	*	*
40. Transfer/transport patients within a medical agency.	*	*
41. Utilize proper body mechanics during lifting.	*	*
42. Assure patient's safety.	*	*
43. Support injured body parts.	*	*
44. Maintain proper body alignment.	*	*
45. Assist with walking when indicated.	*	*
46. Describe and practice safe working conditions.	*	*
47. Determine components of the metric system and standard international units.	*	*
48. Identify common household and apothecary units of measurement.	*	*
49. Demonstrate skills, characteristics and responsibilities of leaders and effective group members.	*	*
50. Prepare for effective citizenship and for participation in the democratic process.	*	*
51. Discuss personal characteristics of a health care professional.	*	*
52. Demonstrate the appropriate personal appearance of a health care professional.	*	*
53. Measure and record intake and output.	*	*
54. Transfer or discharge a patient from a medical agency.	*	*
55. Remove irritants and clean a work station.	*	*
56. Assist patients that have fallen.	*	*
57. Measure a patient's weight.	*	*
58. Measure a patient's height.	*	*
59. Label specimens collected for diagnostic procedures with proper identification information.	*	*
60. Provide for patient privacy.	*	*
61. Perform urine glucose, protein, ketone, and specific gravity tests.	*	*
62. Explain the procedure for collecting a clean catch mid-stream urine specimen.	*	*
63. Perform a (one-step) urine pregnancy test.	*	*
64. Perform venipuncture on inpatients and outpatients.	*	*
65. Organize blood collection workload.	*	*
66. Deliver blood samples to the proper laboratory sections.	*	*
67. Prepare specimens for reference laboratory and complete request forms.	*	*
68. Stock the phlebotomy tray.	*	*
69. Maintain inventory of supplies.	*	*
70. Maintain the appearance of the blood collection area.	*	*
71. Perform template bleeding time.	*	*
72. Prepare peripheral blood smear.	*	*

URINALYSIS AND BODY FLUIDS

1. Perform routine urinalysis and body fluid analysis
 - A. Qualitative and quantitative urine chemistry tests.
 - B. Microscopic examination of urine sediment.
 - C. Report color, appearance, and specific gravity of urine and body fluids.
 - D. Perform quantitative leucocyte, and erythrocyte counts of body fluids/hemocytometer.
 - E. Perform quantitative and qualitative pregnancy test.
 - F. Perform qualitative tests for urinary calculi.
 - H. Transcribe test results to report forms.

Phleb	MLT
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HEMATOLOGY

1. Perform routine hematology and coagulation procedures:
 - A. Complete blood count/automated cell counter.
 - B. Microhematocrit
 - C. Cyanmethemoglobin test/hemoglobinometer
 - D. Erythrocyte count/hemacytometer
 - E. Leucocyte count/hemacytometer
 - F. Fix and stain blood smear/Wright stain or Wright-Giemsa stain.
 - G. Leucocyte differential cell count/100 leucocytes.
 - H. Platelet estimation/stained blood smear.
 - I. Platelet count/hemacytometer.
 - J. Erythrocyte sedimentation rate/Wintrobe and modified Westergren methods.
 - K. Reticulocyte count/new methylene blue stain.
 - L. Circulating eosinophil count/hemacytometer.
 - M. Sick cell test/sodium dithionate tube method.
 - N. Leucocyte alkaline phosphatase stain/sigma diagnostic kit.
 - O. Lupus erythematosus preparation/heparinized blood.
 - P. Osmotic fragility test/spectrophotometer.
 - Q. Lee and White coagulation time/whole blood.
 - R. Prothrombin time/fibrometer.
 - S. Activated partial thromboplastin time/fibrometer.
 - T. Thrombin time/fibrometer.
 - U. Quantitative fibrinogen/fibrometer.
 - V. Fibrinogen degradation products/thrombo- wellcotest procedure.
2. Transcribe test results to report forms.
3. Report panic values and stat results/phone.

[illegible]

IMMUNOHEMATOLOGY AND IMMUNOLOGY

1. Perform routine immunohematology and immunology procedures:
 - A. ABO grouping and ABO subgrouping/tube method.
 - B. Rh factors and Du factors/tube method.
 - C. Direct antibody test/tube method.
 - D. Indirect antibody test/tube method.
 - E. Crossmatch blood/compatibility testing/tube method.
2. Order blood from the blood bank service/phone.
3. Organize, inventory, and store blood and components in blood bank refrigerator.
4. Store and/or dispose of used blood containers and tubing.
5. Issue blood and prepare components for transfusion.
6. Transcribe immunohematology test results to report forms.
7. Perform routine immunological procedures:
 - A. Syphilis screening/RPR and VDRL
 - B. Antistreptolysin "O" titers/slide and tube methods.
 - C. Febrile agglutinations/slide and tube methods.
 - D. Rheumatoid arthritis test/slide.
 - E. Mononucleosis screen/slide.
 - F. Antibody titers for viral related diseases/fluorescent microscopy.
 - G. Transcribe immunology test results to report forms.

Phleb MLT

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MEDICAL MICROBIOLOGY

1. Perform routine bacteriology procedures:
 - A. Gram-staining suspected microbes.
 - B. Inoculation of culture media.
 - C. Isolation of microorganisms.
 - D. Identification of various bacteria.
 - E. Antibiotic susceptibility testing of probable pathogens.
2. Perform routine acid fast bacteria cultures.
 - A. Specimen concentration.
 - B. Staining with acid fast stain.
3. Perform routine mycology procedures.
 - A. Potassium hydroxide preparations.
 - B. Specimen culturing.
 - C. Identification techniques.
4. Perform routine parasitology procedures.
 - A. Specimen concentration.
 - B. Iodine-saline preparation.
 - C. Parasite identification.

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5. Transcribe medical microbiology test results to report forms.
6. Report panic values to appropriate personnel when indicated.

Phleb MLT

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MEDICAL CHEMISTRY

1. Perform routine and special chemistry procedures.
 - A. Biochemistry analysis/spectrophotometry.
 - B. Biochemistry analysis/autoanalyzers.
 - C. Electrolyte analysis/flame photometer and ion specific electrodes.
 - D. Biochemistry analysis/electrophoresis.
 - E. Qualitative and quantitative analysis of therapeutic and drugs of abuse.
 - F. Transcribe medical chemistry test results to report forms.

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MISCELLANEOUS COMPETENCIES INCLUDED IN EACH COURSE

1. Calibrate automated instruments.
2. Calibrate other measuring devices used to monitor various parameters.
3. Check and record environmental parameters.
4. Prepare requisitions for supplies.
5. Perform quality control checks on reagents and instruments.
6. Observe safety regulations.
7. Maintain waste and decontamination regulations.
8. Interact with other members of the health care team in a positive and productive manner to assure quality patient care.
9. Demonstrate good bedside technique and maturity when interacting with patients.

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**COMPETENCIES FOR MEDICAL LABORATORY TECHNICIAN
AND PHLEBOTOMIST
11 GRADE**

I. MEDICAL TERMINOLOGY

Demonstrate a knowledge of medical terminology.

Demonstrate an understanding of the meaning of commonly used medical abbreviations and symbols.

II. ANATOMY AND PHYSIOLOGY

Identify simple anatomy, physiology and pathophysiology of the body systems.

III. HEALTH CARE PAST AND PRESENT

Identify and demonstrate an understanding of the organizational and functional structure of various health care institutions.

Discuss health care past and present.

Identify the health care professionals.

Discuss health care hierarchy

Describe world and community health organizations.

Identify systems that finance health care.

IV. COMMUNICATION SKILLS

Utilize correct telephone skills

Obtain guidance for difficult communication.

Interpret personal reaction to illness and disability.

Identify individual cultural, religious and socioeconomic differences in individuals.

Communicate with patients who have sensory disorders.

Develop an appropriate and effective written and oral communication technique.

Access your communication strengths and weaknesses.

Review effective modes of communication with other students and health care professionals.

Provide psychological support via oral communication.

Determine the appropriate methods(s) of communication for individual patients.

Demonstrate support communication technique for the critically and terminally ill.

Utilize audio and/or visual equipment for communicating health care concepts.

Document verbal messages.

V. MEDICO LEGAL AND MEDICAL ETHICS

Discuss medico legal and medical ethics.

Describe legal responsibilities of health care professionals.

Define medico legal terms.

Discuss the patient's bill of rights.

Identify medical liabilities associated with health care professionals.

VI. FIRST AID AND EMERGENCY CARE

Identify emergency equipment.

Acquire BCLS certification AHA course, "C" standards.

Demonstrate and perform basic first aid.

VII. EMPLOYMENT SKILLS

Demonstrate techniques and skills for appropriate competencies.

VIII. VITAL SIGNS

Identify abnormal and normal vital signs.

Perform and document vital signs.

IX. INFECTION CONTROL AND ASEPSIS

Employ proper handwashing.

Identify and maintain the various isolation techniques.

Conduct concurrent and terminal disinfection.

Perform sterilization and disinfection methods.

X. SAFETY AND MOBILITY

Maintain equipment supplies.

Discuss fire and foul weather safety procedures.

Transfer/transport patient within a medical agency.

Utilize proper body mechanics during lifting.

Assure patient's safety.

Support injured body parts.

Maintain proper body alignment.

Assist with walking when indicated.

Describe and practice safe working conditions.

XI. HEALTH CAREER MATH

Determine components of the metric system and standard international units.

Identify common household and apothecary units of measurement.

XII. LEADERSHIP CONCEPTS AND SKILLS

Demonstrate skills, characteristics and responsibilities of leaders and effective group members.

Prepare for effective citizenship and for participation in the democratic process.

XIII. PERSONAL QUALITIES OF A HEALTH CARE PROFESSIONAL

Discuss personal characteristics of a health care professional.

Demonstrate the appropriate personal appearance of a health care professional.

XIV. PERSONAL CARE SKILLS

Measure and record intake and output.

Transfer or discharge out of medical agency.

Remove irritants and clean work station.

Assist patients that have fallen.

Measure weight and height.

Label specimens collected with proper identification information.

Provide for patient privacy.

Perform urine glucose, protein, ketone, and specific gravity tests.

Explain the procedure for collecting a clean catch mid-stream urine specimen.

Perform a (one-step) urine pregnancy test.

**COMPETENCIES FOR MEDICAL LABORATORY TECHNICIAN,
AND PHLEBOTOMIST
12th Grade**

I. MEDICAL TERMINOLOGY

Demonstrate a knowledge of medical terminology.

Define medical terminology related to each body system and specialty areas of health care.

Demonstrate an understanding of the meaning of commonly used medical abbreviations and symbols.

II. ANATOMY AND PHYSIOLOGY

Identify simple anatomy, physiology, and pathophysiology of body systems.

Identify anatomy pertaining to pregnancy and childbirth.

III. HEALTH CARE PAST AND PRESENT

Identify worldwide and community health organizations.

Identify health care specialties.

Discuss health care past and present.

Identify and support philosophies of health care.

IV. COMMUNICATION SKILLS

Utilize and demonstrate communication equipment specific to health occupations.

Obtain guidance for difficult communication.

Describe medical legal responsibilities for health care workers.

Interpret personal reaction to illness and disability.

Identify individual cultural, religious and socioeconomic differences in people.

Develop an appropriate and effective written, and oral communication technique skills.

Access your communication strengths and weaknesses.

Review effective modes of communication with other students and health care professionals.

Provide psychological support via oral communication.

Complete inter-departmental requisitions.

Disseminate reports to appropriate units.

Translate a medical term into a language that a patient can understand.

V. MEDICO LEGAL AND MEDICAL ETHICS

Describe legal responsibilities of health care professionals.

Identify medical liabilities associated with health care

Report questionable activities of self and others to supervisor.

Define medico legal terms.

Discuss ethical/moral and cultural ideologies common in today's society.

VI. FIRST AID AND EMERGENCY CARE

Acquire BCLS certification - AHA course, C standards.

Demonstrate and perform basic first aid.

VII. EMPLOYMENT SKILLS

Demonstrate techniques and skills for appropriate competencies.

VIII. VITAL SIGNS

Identify abnormal/normal vital signs.

Perform and document vital signs.

IX. INFECTION CONTROL AND ASEPSIS

Identify and maintain the various isolation techniques.

Perform sterilization and disinfection methods.

Communicate terms related to asepsis.

Identify defensive mechanisms against disease.

Categorize infectious agents and their modes of transmission.

Utilize procedures for effective infection control.

Discuss the rules of sterile techniques.

Apply sterile gloves and gowns.

X. SAFETY AND MOBILITY

Maintain equipment and supplies.

Care for patient during seizures.

Discuss fire and foul weather safety procedures.

Transfer/transport patient within a medical agency.

Utilize proper body mechanics during lifting.

Assure patient's safety.

Support injured body parts.

Maintain proper body alignment.

Assist with walking when indicated.

Describe and practice safe working conditions.

XI. HEALTH CAREER MATH

Determine components of the metric system and standard international units.

Identify common household and apothecary measurements.

Convert from English to metric and from metric to standard international units.

Plot points on a graph.

XII. LEADERSHIP CONCEPTS AND SKILLS

Demonstrate skills, characteristics and responsibilities of leaders and effective group members.

Prepare for effective citizenship and for participation in the democratic process.

XIII. NUTRITION

Identify the fundamentals of nutrition.

Identify common diets related to patient treatment.

XIV. PERSONAL CARE SKILLS

Prepare skin for venipuncture technique.

Apply tourniquet properly for venipuncture technique.

Do venipuncture with vacutainer.

Do venipuncture with syringe and needle.

Demonstrate post venipuncture care.

Dispose of used venipuncture equipment and supplies safely.

Discuss the use of various anticoagulants in laboratory testing.

Perform a finger stick.

Prepare a blood film on a glass slide for WBC differential.

Label test samples with the proper identification information.

Provide for patient privacy.

Perform a template bleeding time.

PROPOSED CURRICULUM
MEDICAL LABORATORY TECHNICIAN
ASSOCIATE IN APPLIED SCIENCE DEGREE

THE MEDICAL LABORATORY TECHNICIAN PROGRAM IS DESIGNED TO TEACH THE THEORY AND SKILLS REQUIRED FOR A CAREER ENTRY AT THE TECHNICIAN LEVEL OF CERTIFICATION. STUDENTS ARE INTRODUCED TO THE DEFINED COMPONENTS OF COMPETENCY USED FOR THE BOARD OF REGISTRY'S EXAMINATIONS. THEY ARE ALSO PROVIDED WITH THE SKILLS NEEDED TO MAKE A SUCCESSFUL TRANSITION FROM STUDENT TO GRADUATE MEDICAL LABORATORY TECHNICIAN.

FRESHMAN YEAR

FIRST SEMESTER

	SEM	WKL LEC	WKL LAB	TOT CON
	HRS	HRS	HRS	HRS
MLT 310 INTRO TO LABORATORY AND URINALYSIS	3	4	2	96
ENG 311 FRESHMAN COMPOSITION I OR BUS 317	3	3	0	48
MAT 308 INT ALG OR MAT 309 COLLEGE ALGEBRA	3	3	0	48
HC 306 MEDICAL TERMINOLOGY	3	3	0	48
HC 401 INTEGRATED SCIENCES	4	3	2	80
	16	16	4	320

SECOND SEMESTER

MLT 315 HEMATOLOGY	3	4	2	96
MLT 420 CLINICAL PRACTICE	4	0	7	112
BIO 453 MICROBIOLOGY	4	3	2	80
ENG 312 FRESHMAN COMPOSITION II OR ENG 313	3	3	0	48
	14	10	11	336

SUMMER SEMESTER

MLT 320 BLOOD BANKING & IMMUNOLOGY (12 WEEKS)	3	4	2	72
MLT 430 CLINICAL PRACTICE (12 WEEKS)	4	0	9	108
	7	4	11	180

SOPHOMORE YEAR

FIRST SEMESTER

MLT 350 MEDICAL MICROBIOLOGY	3	4	2	96
MLT 455 CLINICAL PRACTICE	4	0	7	112
CHE 421 GEN INORGANIC OR CHE 411	4	3	2	80
CDP 315 MICROCOMPUTERS FOR BUSINESS	3	3	0	48
	14	10	11	336

APPENDICES G

COMPETENCIES

RADIOLOGIC ASSISTANT

RADIOLOGIC TECHNOLOGIST

MASTER LIST OF COMPETENCIES

	<u>Tech Asst.</u>	<u>Rad Tech</u>
1. Wear a personnel monitoring device while on duty to obtain a record of radiation exposure over a given period of time.	____X____	____X____
2. Inspect and clean screens and cassettes regularly to identify and remove causes of artifacts.	____X____	____X____
3. Perform "start up" and/or "shutdown" procedures on automatic processor (e.g., adjust water, removal and cleaning of "cross-over" bars).	____X____	____X____
4. Recognize and report malfunctions in automatic processor noting difficulties which might assist in locating cause of malfunction.	____X____	____X____
5. Verify correctness of patient film identification (e.g., flash card or lead markers) indicating patient's name, file number, date or other pertinent information.	____X____	____X____
6. Retrieve radiographic patient records (e.g., radiographs or reports) when requested by physician or to assist in planning radiographic examination, using computerized or manual record keeping system.	____X____	____X____
7. Determine patient's identity using information on request form and confirm by checking wristband and/or by questioning patient.	____X____	____X____
8. Question female patients of child-bearing age about menstrual cycle and/or possible pregnancy to alert physician.	____X____	____X____
9. Record information obtained from patient on requisition form using knowledge of medical terminology.	____X____	____X____

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|---|-------------|---|
| 10. Instruct patient about diet restrictions and/or self-administered preparatory medication prior to a contrast examination. | _____X_____ | X |
| 11. Remove all radiopaque materials from patient and/or table that could interfere with the quality of the radiograph. | _____X_____ | X |
| 12. Provide for patient comfort and modesty by supplying a pillow, sheet, gown, etcetera and keeping patient properly covered during procedure. | _____X_____ | X |
| 13. Assist patient onto or off of table, stool or bed to avoid patient or personal injury using proper body mechanics and/or mechanical transfer devices. | _____X_____ | X |
| 14. Use sterile or aseptic technique as required to help prevent infection. | _____X_____ | X |
| 15. Assist physician with administration of contrast media. | _____X_____ | X |
| 16. Assist physician in observing vital signs. | _____X_____ | X |
| 17. Remove all unnecessary persons from area prior to taking radiograph to reduce exposure to radiation. | _____X_____ | X |
| 18. Follow departmental procedures in case of an incident occurring to a patient, visitor or staff to assure proper reporting and treatment as necessary. | _____X_____ | X |
| 19. Store film/cassette in a manner which will reduce the possibility of accidentally exposing or re-exposing film. | _____X_____ | X |
| 20. Imprint proper identification information onto film using either the radiographic, photographic or light imprinter method. | _____X_____ | X |
| 21. Process exposed film by unloading cassette and feeding into automatic processor. | _____X_____ | X |

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|---|-----------|---|
| 22. Reload cassettes by selecting film of proper size and type. | ____X____ | X |
| 23. Combine radiographic requisition and radiographs for interpretation and filing. | ____X____ | X |
| 24. Clean, wash, disinfect and/or sterilize facilities and equipment (e.g., cassettes, tabletops) and dispose of contaminated items in preparation of next examination. | ____X____ | X |
| 25. Demonstrate a knowledge of medical terminology. | ____X____ | X |
| 26. Demonstrate an understanding of the meaning of commonly used medical symbols and abbreviations. | ____X____ | X |
| 27. Identify simple anatomy and physiology of the human body. | ____X____ | X |
| 28. Identify simple pathophysiology of the human body. | ____X____ | X |
| 29. Discuss health care - past and present. | ____X____ | X |
| 30. Identify health care specialties. | ____X____ | X |
| 31. Discuss the health care hierarchy. | ____X____ | X |
| 32. Describe the basic types of communication. | ____X____ | X |
| 33. Discuss appropriate and effective communication skills (written, verbal, nonverbal) | ____X____ | X |
| 34. Identify personal reaction to illness or injury. | ____X____ | X |
| 35. Identify individual cultural, religious and socioeconomic differences in people. | ____X____ | X |
| 36. Identify ways to communicate to patients with sensory disorders. | ____X____ | X |
| 37. Determine own strengths and limitations. | ____X____ | X |

38. Utilize or demonstrate communication equipment specific to health occupations.	___X___	X
39. Use written communication to validate verbal messages.	___X___	X
40. Utilize correct telephone skills.	___X___	X
41. Demonstrate method for obtaining preliminary information on new patients.	___X___	X
42. Identify procedure for scheduling patients.	___X___	X
43. Describe methods of filing, removing and replacing patient charts.	___X___	X
44. Compare and contrast ethics and law.	___X___	X
45. Describe legal responsibilities for health care workers.	___X___	X
46. Identify components of patient's rights.	___X___	X
47. Communicate patient's rights.	___X___	X
48. Identify methods of decreasing likelihood of legal problems.	___X___	X
49. Discuss desirable personal characteristics of a health care worker.	___X___	X
50. Demonstrate appropriate personal appearance.	___X___	X
51. Identify skills, characteristics and responsibilities of leaders and effective group members.	___X___	X
52. Demonstrate a knowledge of parliamentary procedures.	___X___	X
53. Identify basic emergency equipment.	___X___	X
54. Acquire BCLS certification - AHA course C standards.	___X___	X
55. Demonstrate and perform basic first aid.	___X___	X
56. Identify normal vital signs.	___X___	X

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|--|---------|---------|
| 57. Describe procedure for measuring vital signs. | ___X___ | ___X___ |
| 58. Perform proper procedure for measuring vital signs. | ___X___ | ___X___ |
| 59. Demonstrate proper handwashing technique. | ___X___ | ___X___ |
| 60. Identify types of isolation. | ___X___ | ___X___ |
| 61. Explain the difference between sanitization, disinfection and sterilization. | ___X___ | ___X___ |
| 62. Identify sanitization, disinfection and sterilization techniques. | ___X___ | ___X___ |
| 63. Identify basic medical equipment and supplies. | ___X___ | ___X___ |
| 64. Demonstrate basic knowledge of body mechanics. | ___X___ | ___X___ |
| 65. Demonstrate safety awareness at all times and in all situations. | ___X___ | ___X___ |
| 66. Demonstrate safe patient transfers. | ___X___ | ___X___ |
| 67. Transfer/transport patients within a facility. | ___X___ | ___X___ |
| 68. Describe safe working conditions. | ___X___ | ___X___ |
| 69. Assist patient in and out of bed. | ___X___ | ___X___ |
| 70. Inform patient about hospital surroundings. | ___X___ | ___X___ |
| 71. Provide for patient privacy. | ___X___ | ___X___ |
| 72. Demonstrate proper disposal of contaminated items. | ___X___ | ___X___ |
| 73. Define medical terminology related to body systems. | ___X___ | ___X___ |
| 74. Define medical terminology related to radiologic technology. | ___X___ | ___X___ |
| 75. Utilize common medical abbreviations and symbols in written communication. | ___X___ | ___X___ |

76. Identify specific anatomy, physiology, and pathophysiology related to:

- a. the skeletal system
- b. the muscular system
- c. the nervous system
- d. the cardiovascular system
- e. the gastrointestinal system
- f. the genitourinary system
- g. the respiratory system

_____X_____	X
_____X_____	X
_____X_____	X
_____X_____	X
_____X_____	X
_____X_____	X
_____X_____	X

77. Discuss current and future trends in health care.

_____X_____	X
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78. Identify worldwide and community health organizations.

_____X_____	X
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79. Identify systems that support and finance health care.

_____X_____	X
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80. Identify and support philosophies of health care.

_____X_____	X
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81. Develop appropriate and effective written, verbal and nonverbal communication skills.

_____X_____	X
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82. Obtain guidance for difficult communication.

_____X_____	X
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83. Interpret personal reaction to illness and injury.

_____X_____	X
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84. Provide psychological support.

_____X_____	X
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85. Discuss effective modes of communication with peers and supervisors.

_____X_____	X
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86. Translate a medical term into a language a patient can understand.

_____X_____	X
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87. Discuss effective modes of communication with patients having difficulties.

_____X_____	X
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88. Describe methods of screening incoming telephone calls.

_____X_____	X
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89. Complete departmental office forms.

_____X_____	X
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90. Identify methods of storing files on computer filing systems.

_____X_____	X
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|---|---------|---|
| 91. List the differences between a conventional medical record, a Problem Oriented Medical Record, and a SOAP medical record. | ___X___ | X |
| 92. Define health insurance terms. | ___X___ | X |
| 93. Identify major components of fee schedules. | ___X___ | X |
| 94. Define legal and ethical issues. | ___X___ | X |
| 95. Demonstrate knowledge of legal guidelines and responsibilities for the radiologic technology assistant. | ___X___ | X |
| 96. Report questionable activities of self and others to supervisors. | ___X___ | X |
| 97. Become familiar with ethical, moral and cultural ideologies common in today's society. | ___X___ | X |
| 98. Demonstrate skills, characteristics and responsibilities of leaders and effective group members. | ___X___ | X |
| 99. Plan and conduct leadership activities. | ___X___ | X |
| 100. Maintain BCLS certification. | ___X___ | X |
| 101. Identify the fundamentals of nutrition. | ___X___ | X |
| 102. Identify common diets related to health conditions. | ___X___ | X |
| 103. Demonstrate repetition of vital signs that are questionable or abnormal. | ___X___ | X |
| 104. Apply sterile gloves and gowns. | ___X___ | X |
| 105. Maintain a sterile field. | ___X___ | X |
| 106. Demonstrate knowledge of fire, tornado, and/or disaster safety procedures. | ___X___ | X |
| 107. Demonstrate basic understanding of policies and procedures. | ___X___ | X |

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|------|--|-------|---|
| 108. | Warm-up x-ray tube to achieve proper operating conditions by following manufacturer's prescribed sequence of steps. | ----- | X |
| 109. | Recognize and report malfunctions in radiographic unit (including table, tube and accessories) noting the difficulty, which might assist in locating cause of the malfunction. | ----- | X |
| 110. | Monitor performance of automatic processor using sensitometry. | ----- | X |
| 111. | Perform safety checks of radiographic equipment and accessories (e.g. lead aprons and gloves, collimator accuracy). | ----- | X |
| 112. | Examine radiographic requisition to verify the accuracy and completeness of information on the form. | ----- | X |
| 113. | Observe and/or question patient to assist in determining if alternate radiographic projections are needed as well as any modifications that might be useful. | ----- | X |
| 114. | Prior to injection of an iodinated contrast medium, elicit such information about the patient which might indicate a risk or a reaction using patient's chart, radiographic file jacket and/or by questioning patient. | ----- | X |
| 115. | Explain procedure to patient to relieve anxiety and gain patient's cooperation during procedures. | ----- | X |

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|------|--|-------|---|
| 116. | Give patient appropriate breathing instructions (e.g., inspiration, expiration) prior to making exposure. | _____ | X |
| 117. | Select equipment appropriate for the examination requested. | _____ | X |
| 118. | Select film/screen and/or grid combination appropriate for the part to be radiographed. | _____ | X |
| 119. | Attach radiopaque markers to cassette to indicate body side, position or other relevant information. | _____ | X |
| 120. | Position patient to demonstrate the desired anatomical part(s) using body landmarks and standard radiographic positions. | _____ | X |
| 121. | Use immobilization devices, when indicated, to prevent patient movement. | _____ | X |
| 122. | Place protective shield over radio-sensitive organs prior to exposure when they are in or near the primary beam, if not detrimental to the quality of the film. | _____ | X |
| 123. | Adjust table, radiographic and/or fluoroscopic equipment, and image receptor to produce desired radiographic view. | _____ | X |
| 124. | Determine appropriate exposure factors using calipers, technique charts and tube rating charts for guidance. | _____ | X |
| 125. | Modify exposure factors for circumstances such as voluntary and involuntary motion, plaster casts, pathological conditions, and/or patient's inability to cooperate. | _____ | X |
| 126. | Restrict beam to limit exposure to area of interest and to improve image quality. | _____ | X |

- | | | | |
|------|---|-------|---|
| 127. | Set kVp, mA and time or automated exposure system to achieve optimum image quality, safe operating conditions and minimize radiation exposure. | ----- | X |
| 128. | Observe patient after injection of iodinated contrast medium using knowledge of common reactions. | ----- | X |
| 129. | Recognize need for medical attention and administer emergency care to patient critical situation while waiting for help to arrive (e.g., bleeding, epileptic seizure, respiratory or cardiac distress, or adverse reaction to contrast medium). | ----- | X |
| 130. | Minimize personnel radiation exposure by using lead barriers and increased distance from radiation source. | ----- | X |
| 131. | Follow appropriate protective technique when radiographing a patient in isolation to provide for effective infection control. | ----- | X |
| 132. | Perform radiographic examination in a sequence which avoids or minimizes undesirable effects which may result from prior procedures (e.g., effects of residual contrast medium). | ----- | X |
| 133. | Assist radiologist in fluoroscopy by preparing the fluoroscopic unit and accessories for use and by adjusting controls as requested during the procedure. | ----- | X |
| 134. | Monitor medical equipment attached to patient (e.g., IVs, oxygen) during the radiographic procedure, using knowledge of hospital equipment and procedures. | ----- | X |
| 135. | Evaluate radiographs using view box to make certain that radiographs contain proper identification and are of diagnostic quality. | ----- | X |

136. Determine corrective measures if radiograph is not of diagnostic quality.

----- X

137. Record required information on request following performance of examination (may include technologist identification, patient data, billing codes, number and size of films technique or other information as required by department protocol).

----- X

138 - 148 Position patient, x-ray and image receptor to produce radiographs of the head and/or neck to demonstrate:

138. Skull

----- X

139. Mastoids/Temporal Bones

----- X

140. Facial Bone

----- X

141. Mandible

----- X

142. Zygoma and Arches

----- X

143. Temporomandibular Joints

----- X

144. Nasal Bones

----- X

145. Optic Foramina

----- X

146. Orbits

----- X

147. Paranasal Sinuses

----- X

148. Larynx, Airway

----- X

149 - 153 Position patient, x-ray tube or fluoroscopic unit and image receptor to produce radiographs of the thorax to demonstrate:

149. Chest, routine

----- X

150. Chest, obliques, apical lordotic, decubitus

----- X

151. Ribs

----- X

152. Sternoclavicular Joints

----- X

153. Sternum

----- X

154 - 175 Position patient, x-ray tube and image receptor to produce radiographs of the extremities to demonstrate the:

154.	Toes	_____	X
155.	Foot	_____	X
156.	Os Calcis	_____	X
157.	Ankle	_____	X
158.	Tibia and Fibula	_____	X
159.	Knee	_____	X
160.	Patella	_____	X
161.	Femur	_____	X
162.	Fingers	_____	X
163.	Hand	_____	X
164.	Wrist	_____	X
165.	Forearm	_____	X
166.	Elbow	_____	X
167.	Humerus	_____	X
168.	Shoulder	_____	X
169.	Scapula	_____	X
170.	Clavicle	_____	X
171.	Acromioclavicular Joints	_____	X
172.	Bone Survey	_____	X
173.	Long Bone Measurement	_____	X
174.	Bone Age	_____	X
175.	Soft tissue	_____	X

176 - 184 Position patient, x-ray tube and image receptor to produce radiographs of the spine and pelvis region to demonstrate the:

176.	Cervical Spine	_____	X
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177.	Thoracic Spine	_____	X
178.	Scoliosis Series	_____	X
179.	Lumbosacral Spine	_____	X
180.	Sacrum	_____	X
181.	Sacroiliac Joints	_____	X
182.	Coccyx	_____	X
183.	Pelvis	_____	X
184.	Hip	_____	X
185 - 193	Position patient, x-ray tube or fluoroscopic unit and image receptor to produce the following studies of the abdomen and gastrointestinal tract:		
185.	Esophagus Study	_____	X
186.	Abdomen	_____	X
187.	Upper G.I. Series	_____	X
188.	Small Bowel Series	_____	X
189.	Barium Enema, Single Contrast	_____	X
190.	Barium Enema, Double Contrast	_____	X
191.	Operative Cholangiogram	_____	X
192.	T-tube Cholangiogram	_____	X
193.	Cholecystogram	_____	X
194 - 195	Position patient, x-ray tube or fluoroscopic unit and image receptor to produce the following cardiovascular studies:		
194.	Cardiac Fluoroscopy	_____	X
195.	Venogram	_____	X
196.	Position patient, x-ray tube or fluoroscopic unit and image receptor to produce the following neurological study:		
196.	Myelogram	_____	X

197 - 199 Position patient, x-ray or fluoroscopic unit and image receptor to produce the following studies:

197.	Arthrogram	_____	X
198.	Mammogram	_____	X
199.	Iomogram	_____	X

200 - 203 Position patient, x-ray tube or fluoroscopic unit and image receptor to produce the following studies:

200.	Cystogram	_____	X
201.	Cystourethrogram	_____	X
202.	IVP	_____	X
203.	Retrograde Pyelogram	_____	X

OCCUPATION: Radiologic Technologist's Assistant

JOB DESCRIPTION: Radiologic Technologist's Assistant

Title:

Tech Assistant

Reports to:

Radiologic Technologist

Position Summary:

Provides patient services relative to the radiology department

Performs darkroom procedures

Performs duties related to assisting physicians and radiologic technologists in the radiology department

Duties:

1. Performs various darkroom duties to include radiographic film processing, care and cleaning of cassettes, automatic processors, and other equipment, and reloads cassettes with proper film size and type.
2. Performs various duties related to office procedures of the radiology department.
3. Assists the physician in the radiology department by such methods as obtaining patient vital signs, recording patient histories, and assisting the physician in the administration of contrast media.
4. Performs various patient care functions such as patient transportation, assisting the patient with dressing in the x-ray gown, instructing the patient about diet restrictions and/or self-administered preparatory medication prior to x-ray examination.
5. Performs infection control procedures as dictated by departmental policy.

Qualifications:

1. Successful completion (grade C or better) of Health Careers I & II at the secondary level.

GRADE 11 - HEALTH CAREERS I
FOR "2+2" RADIOLOGIC TECHNOLOGIST PROGRAM

Objective:

The student will be provided with the opportunity to develop and demonstrate the beginning level knowledge and skills for occupation of a radiologic technician in the "2+2" Articulated Health Occupations Program.

Course Description:

This is a one-year course of study that provides both academic and clinical experience. Students will receive classroom instruction which includes lecture, classroom laboratory and individualized study that focuses the basic knowledge and skills of medical terminology, communication skills, ethical and legal issues, employment skills, safety and mobility, leadership and personal quality concepts and skills. Basic knowledge and skills in anatomy and physiology, first aid and emergency care, vital signs, infection control and asepsis, and patient care skills are included. In addition the health career student will receive clinical experience in a licensed health care facility.

Students must complete this course to articulate to the next level in the "2+2" Articulated Health Occupations Program for the radiologic technologist.

Competencies for Health Careers I

Radiologic Technology

I. Medical Terminology

Demonstrate a knowledge of medical terminology
Demonstrate an understanding of the meaning of commonly used
medical symbols and abbreviations

II. Anatomy and Physiology

Identify simple anatomy and physiology of the human body
Identify simple pathophysiology of the human body.

III. History of Health Care

Discuss health care - past and present
Identify health care specialties
Discuss the health care hierarchy

IV. Communication Skills

Describe the basic types of communication
Discuss appropriate and effective communication skills (written, verbal,
nonverbal)
Identify personal reaction to illness or injury
Identify individual cultural, religious and socioeconomic differences
in people
Identify ways to communicate to patients with sensory disorders
Determine own strengths and limitations
Utilize or demonstrate communication equipment specific to health
occupations
Use written communication to validate verbal messages

V. Office Skills

Utilize correct telephone skills
Demonstrate method for obtaining preliminary information on new patients
Identify procedure for scheduling patients
Describe methods of filing, removing and replacing patient charts

VI. Ethical and Legal Aspects

Compare and contrast ethics and law
Describe legal responsibilities for health care workers
Identify components of patient's rights
Communicate patient's rights
Identify methods of decreasing likelihood of legal problems

VII. Personal and Leadership Skills

Discuss desirable personal characteristics of a health care worker
Demonstrate appropriate personal appearance
Identify skills, characteristics and responsibilities of leaders
and effective group members
Demonstrate a knowledge of parliamentary procedures

VIII. First Aid and Emergency Care

Identify basic emergency equipment
Acquire BCLS certification - AHA course C standards
Demonstrate and perform basic first aid

IX. Patient Care Skills

Identify normal vital signs
Describe procedure for measuring vital signs
Perform proper procedure for measuring vital signs
Demonstrate proper handwashing technique
Identify types of isolation
Explain the differences between sanitization, disinfection and sterilization
Identify sanitization, disinfection and sterilization techniques
Identify basic medical equipment and supplies
Demonstrate basic knowledge of body mechanics
Demonstrate safety awareness at all times and in all situations
Demonstrate safe patient transfers
Transfer/ transport patients within a facility
Describe safe working conditions
Assist patient in and out of bed
Inform patient about hospital surroundings
Provide for patient privacy
Demonstrate proper disposal of contaminated items

Grade 12 - Health Careers II

For 2+2 Radiologic Technologist Program

Objective:

The student will have the opportunity to develop and demonstrate mastery of the knowledge and skills necessary to articulate to the postsecondary level for continued training as a radiologic technologist.

Course Description:

This is the second year of the 2+2 Articulated Health Occupations Program for Radiologic Technologists. Students must demonstrate mastery of the competencies taught in grade 11 before enrolling in this course. This course will combine advanced academic and clinical experience in the areas of medical terminology, communication skills, health care history, safety and mobility, and leadership concepts and skills. Also, anatomy and physiology, ethical-legal, first aid and emergency care, vital signs, infection control and asepsis, nutrition, office skills, darkroom skills, radiation protection, and patient care skills are included in preparation for entering the RT program at the postsecondary level.

Students will receive classroom instruction which includes lectures, classroom laboratory, and individualized study. In addition the student will receive clinical experience in a licensed health care facility..

Upon completion of this course students may apply for articulation to the postsecondary level for continued education as a radiologic technologist.

Competencies for Health Careers II

Radiologic Technology

I. Medical Terminology

Define medical terminology related to body systems

Define medical terminology related to radiologic technology

Utilize common medical abbreviations and symbols in written communication

II. Anatomy and Physiology

Identify specific anatomy, physiology, and pathophysiology related to:

a. the skeletal system

e. the gastrointestinal system

b. the muscular system

f. the genitourinary system

c. the nervous system

g. the respiratory system

d. the cardiovascular system

III. History of Health Care

Discuss current and future trends in health care

Identify worldwide and community health organizations

Identify systems that support and finance health care

Identify and support philosophies of health care

IV. Communication Skills

Develop appropriate and effective written, verbal and nonverbal communication skills

Obtain guidance for difficult communication

Interpret personal reaction to illness and injury

Provide psychological support

Discuss effective modes of communication with peers and supervisors

Translate a medical term into a language a patient can understand

Discuss effective modes of communication with patients having difficulties

Question female patients of childbearing age about menstrual cycle and/or possible pregnancy to alert physician

Instruct patient about diet restrictions and/or self-administered preparatory medication prior to a contrast examination

V. Office Skills

Describe methods of screening incoming telephone calls

Complete departmental office forms

Identify methods of storing files on computer filing systems

List the differences between a conventional medical record, a Problem

Oriented Medical Record, and a SOAP medical record

Define health insurance terms

V. Office Skills cont.

Identify major components of fee schedules
Verify correctness of patient film identification (e.g., flash card or lead markers) indicating patient's name, file number, date or other pertinent information
Retrieve radiographic patient records (e.g., radiographs or reports) when requested by a physician or to assist in planning radiographic examination, using computerized or manual record keeping system.
Determine patient's identity using information on request form and confirm by checking wristband and/or by questioning patient.
Record information obtained from patient on requisition form using knowledge of medical terminology

VI. Ethical and Legal Aspects

Define legal and ethical issues
Demonstrate knowledge of legal guidelines and responsibilities for the radiologic technology assistant
Report questionable activities of self and others to supervisors
Become familiar with ethical, moral and cultural ideologies common in today's society
Follow departmental procedure in case of an incident occurring to a patient, visitor or staff to assure proper reporting and treatment as necessary

VII. Personal and Leadership Skills

Demonstrate skills, characteristics and responsibilities of leaders and effective group members
Plan and conduct leadership activities

VIII. First Aid and Emergency Care

Maintain BCLS certification

IX. Nutrition

Identify the fundamentals of nutrition
Identify common diets related to health conditions

X. Patient Care Skills

Assist physician in observing vital signs
Demonstrate repetition of vital signs that are questionable or abnormal
Apply sterile gloves and gowns
Use sterile technique as required to help prevent infection
Maintain a sterile field
Assist physician with administration of contrast media
Remove all radiopaque materials from patient and/or table that could interfere with the quality of the radiograph

X. Patient Care Skills cont.

Provide for patient comfort and modesty by supplying a pillow, sheet, gown, etcetera and keep patient properly covered during procedure
Assist patient onto or off of table, stool or bed to avoid patient or personal injury using proper body mechanics and/or mechanical transfer devices

XI. Other

Wear a personnel monitoring device while on clinical duty to obtain a record of radiation exposure over a given period of time
Inspect and clean screens and cassettes regularly to identify and remove causes of artifacts
Perform "start up" and/or "shutdown" procedures on automatic processor (e.g., adjust water, removal and cleaning of "cross-over bars")
Recognize and report malfunctions in automatic processor noting difficulties which might assist in locating cause of malfunction
Store film/cassette in a manner which will reduce the possibility of accidentally exposing or re-exposing film
Imprint proper identification information onto film using either the photographic or light imprinter method
Process exposed film by unloading cassette and feeding into automatic processor
Reload cassettes by selecting film of proper size and type
Combine radiographic requisition and radiographs for interpretation and filing
Clean, wash, disinfect and/or sterilize facilities and equipment (e.g., cassettes, tabletops) and dispose of contaminated items in preparation of next examination
Demonstrate knowledge of fire, tornado, and/or disaster safety procedures
Demonstrate basic understanding of policies and procedures

OCCUPATION: RADIOLOGIC TECHNOLOGIST

JOB DESCRIPTION: RADIOLOGIC TECHNOLOGIST*

Title:

Staff Radiographer

Reports to:

Radiography supervisor

Position Summary:

Provides patient services using imaging modalities
Performs radiographic procedures
Applies principles of radiation protection
Evaluates radiographs for technical quality
Exercises professional judgment in the performance of procedures
Provides patient care essential to radiographic procedures
Recognizes patient conditions requiring immediate action and initiates life support measures

Duties:

1. Performs diagnostic radiographic services
 - a. Operates imaging equipment
 - b. Operates other equipment devices as appropriate
 - c. Positions patients
 - d. Immobilizes patients as necessary
 - e. Calculates exposure factors
 - f. Practices radiation protection
 - g. Evaluates radiographs for technical quality
 - h. Assumes care for physical and psychological needs of patients during examinations and procedures
 - i. Practices aseptic technique as necessary
 - j. Assists with administration of contrast media
 - k. Assists physician with imaging procedures
 - l. Initiates life support measures for patients, if necessary
2. Maintains patient records
3. Assumes responsibility for assigned area
4. Provides input for equipment and supply purchase decisions
5. Instructs specific units of didactic and/or clinical education in the radiography program, if applicable
6. In the absence of a supervisor, assumes acting supervisory responsibility
7. Assumes responsibility for portions of the quality assurance program
8. Pursues ongoing continuing education
9. May control inventory and purchase of supplies for assigned area

Qualifications:

1. Graduate of a CAHEA accredited radiography program, or equivalent
2. Certification by the ARRT or equivalent
3. Competency in components of radiography practice as appropriate
4. Valid state credential, if applicable

*As specified by the American Society of Radiologic Technologists

COURSE DESCRIPTIONS

RADIOLOGIC TECHNOLOGY PROGRAM

Radiologic Principles I

A 4 semester hour course that introduces the fundamentals of positioning, exposure, film critique, medical terminology, basic protection, and historical aspects of radiology. Prerequisites: Completion of secondary Health Careers I and II (3 hours lecture/2 hours lab per week).

Clinical Practice I

A 3 semester hour course that provides competency-based clinical education in radiographic examination of the chest and abdomen. Introduces principals of film evaluation and values important to the radiologic technologist. Prerequisite: Concurrent enrollment in other prescribed radiologic courses; completion of secondary Health Careers I and II with a grade "C" or better. (12 hours lab per week).

Radiologic Principles II

A 4 semester hour course that emphasizes, positioning nursing procedures, and patient care techniques pertaining to radiologic technology.

Prerequisite: Radiologic Principles I with a grade of "C" or better (3 hours lecture/2 hours lab per week).

Clinical Practice II

A 3 semester hour course that provides for competency-based clinical education in radiographic examination of the shoulder girdle, upper extremity, pelvic girdle, and lower extremity. Film evaluation and value judgements are on-going. Prerequisite: Clinical Practice I with grade "C" or better and concurrent enrollment in other prescribed courses. (12 hours lab per week).

Clinical Practice III

A 3 semester hour course that provides competency-based clinical education in radiographic examination of the vertebral column. Film evaluation and value judgements are on-going. Prerequisite: Clinical Practice II with a grade "C" or better. (30 hours lab per week).

Radiologic Physics I

A 3 semester hour course that provides a working knowledge of electrical and radiation physics. Includes basic electronic circuitry of equipment and principles of physics of importance to the radiologic technologist. Prerequisite: Intermediate or College Algebra and concurrent enrollment in Advanced Radiologic Technology or a grade of "C" or better in Advanced Radiologic Technology (3 hours lecture per week).

Radiologic Principles III

A 3 semester hour course that provides instruction in radiologic procedures such as operative, cardiovascular and neurological studies. Contrast media and reactions are discussed. CT, MRI, and ultrasound are considered. Computer applications in radiology are also included. Prerequisites: Anatomy and Physiology I and II, computer literacy, and concurrent enrollment in other sophomore level radiologic courses. (3 hours lecture per week).

Advanced Radiologic Technology

A 4 semester hour course that provides a knowledge of darkroom technology, accessory equipment, exposure and technique. Image production and evaluation is heavily stressed. Prerequisite: Radiologic Principles II with a grade of "C" or better and concurrent enrollment in other prescribed courses. (3 hours lecture/2 hours lab per week).

Clinical Practice IV

A 4 semester hour course that provides competency-based clinical education in radiographic examination of the gastrointestinal and genitourinary tracts. Film evaluation and value judgements are on-going. Prerequisite: Clinical Practice III with a grade of "C" or better and concurrent enrollment in other prescribed radiologic courses. (18 hours lab per week).

Radiologic Physics II

A 3 semester hour course that provides in-dept knowledge of the operation of x-ray equipment, with emphasis on the x-ray generator, electric motors and generators, and the x-ray tube. Properties and characteristics of radiation and the physical principles of radiologic imaging are also discussed. Prerequisite: Radiologic Physics I with a grade of "C" or better. (3 hours lecture per week).

Radiation Protection and Radiobiology

A 3 semester hour course that provides in-depth information on radiation protection and radiobiology. Topics include radiation detection and measurements, patient and personnel protection, the ALARA concept, agencies and regulations, interaction of radiation with matter, cell anatomy, radiation cell interaction, and genetic and somatic effects of radiation. Prerequisite: Anatomy and Physiology I and II with a grade of "C" or better. (3 hours lecture per week).

Radiologic Principles IV

A 3 semester hour course that provides information on medical terminology, radiographic pathology, and quality assurance of importance to the radiologic technologist. Film evaluation and laboratory techniques are emphasized. Prerequisite: Advanced Radiologic Technology with a grade of "C" or better. (2 hours lecture/1 hour lab per week).

Clinical Practice V

A 4 semester hour course that provides competency-based clinical education in radiographic examination of the cranium and face. Film evaluation and value judgements are on-going. Prerequisite: Clinical practice IV with a grade of "C" or better and concurrent enrollment in other prescribed radiologic courses. (18 hours lab per week).

Radiologic Principles V

A 6 semester hour course that combines classroom and clinical activities directed toward entry into the workplace. Entry level skills of the staff technologist are emphasized. Topics covered include radiation protection, equipment operation and maintenance, image production and evaluation, radiographic procedures, and patient care and management. Prerequisite: completion of all other radiologic courses with a grade of "C" or better. (8 hours lecture/18 hours lab per week).

Courses by Grade Level and Credit for RT

<u>Secondary</u>	Grade	Credits
Health Careers I	11	1-2
Health Careers II	12	1-2
		<u>2-4</u>

Secondary Prerequisites for RT Program

Algebra I	Biology I
Algebra II	Anatomy & Physiology
Physical Science	

Postsecondary

*Radiologic Principles Ia - Ib	13	3-4
Clinical Practice I	13	3
*Radiologic Principles IIa - IIb	13	3-4
Clinical Practice II	13	3
Clinical Practice III	13	3
Radiologic Physics I	14	3
Radiologic Principles III	14	3
Advanced Radiologic Technology	14	4
Clinical Practice IV	14	4
Radiologic Physics II	14	3
Radiation Protection and Radiobiology	14	3
Radiologic Principles IV	14	3
Clinical Practice V	14	4
Radiologic Principles V	14	6
		<u>48- 50</u>

*Specific course objectives will be developed for the "2+2" student in Radiologic Principles Ia. One semester hour of credit will be held in escrow for Radiologic Principles Ia for the student who has completed Health Careers I & II at the secondary level and will be placed on the student(s) academic record upon completion of all grade 13 courses. Specific course objectives will be developed for the "2+2" student in Radiologic Principles IIb. One semester hour of credit will be held in escrow for the student who has completed Health Careers I & II at the secondary level and will be placed on the student(s) academic record upon completion of all grade 13 courses. All grade 13 courses must be completed with a grade "C" or better for the escrow credit hours to be transferred. (Ia - 3 semester hours + 1 escrow = 4 semester hours; Ib - 3 semester hours + 1 escrow = 4 semester hours).

*Specific objectives will be developed for the non-"2+2" student in Radiologic Principles I & II B. (4 semester hours).

Postsecondary Support Courses for the RT Program

<u>Course</u>	<u>Grade</u>	<u>Credit Hours</u>
Freshman English I	13	3
Int. or College Algebra	13	3
Anatomy & Physiology I	13	3
Freshman English II	13	3
Computer Literacy	13	1
Anatomy & Physiology II	13	3
General Psychology	14	3
*Elective	14	3

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*History, Government, Sociology or Speech

APPENDICES H

COMPETENCIES

MEDICAL ASSISTANT

MEDICAL ASSISTANT

Although the job title of medical assistant is not in the hierarchy of the occupations for registered nurse, radiology technician, medical laboratory technician or physical therapy assistant, the competencies as specified for the medical assistant are included in the grade 11 and 12 curriculum. Students meeting the recommended secondary prerequisites and having demonstrated mastery of the competencies could exit at the end of grade 12 and be competent to enter the job market and function as a medical office assistant.

MEDICAL ASSISTANT

Job Description:

Performs the following duties under the direction of PHYSICIAN in examination and treatment of patients: Prepares treatment rooms for examination of patient. Drapes patients with covering and positions instruments and equipment. Hands instruments and materials to doctor as directed. Sterilizes and cleans instruments. Prepares inventory of supplies to determine items to be replenished. Interviews patients and checks pulse, temperature, blood pressure, weight and height. May operate equipment, give injections or treatments, and assist in laboratory. May schedule appointments, receive money for bills, keep x-ray and other medical records, perform secretarial tasks, complete insurance forms, and maintain financial records.

Secondary Prerequisites:

Health Careers I-II

Algebra I-II

Geometry

Office Support Systems

Physical Science

Biology I

Chemistry

Biology II or Anatomy and

Physiology

Profile of Competencies for Medical Assistant

- A. Orientation
1. Evaluate personal habits
 2. Check personal traits
 3. Complete self-analysis
 4. Research job opportunities
- B. Career Success
1. Prepare a resume
 2. Write a cover/application letter
 3. Complete employment application form
 4. Use telephone to arrange a job interview
 5. Participate in a job interview
 6. Write a follow-up letter
 7. Compare job opportunities
 8. Write a letter of resignation
 9. Evaluate personal habits
 10. Improve listening skills

Anatomy and Physiology, Related Disorders, Diseases and Skills

- C. Body Planes and Cavities
1. Demonstrate the ability to drape patients for common diagnostic procedures
- D. Microbiology and Bacteriology
1. Research Community resources that protect against harmful microorganisms
 2. Demonstrate the ability to use proper handwashing techniques
 3. Demonstrate the ability to prepare temporary slide
 4. Demonstrate the ability to use a microscope
 5. Demonstrate the ability to wrap packs for sterilization
 6. Demonstrate the ability to use an autoclave
- E. Disease Process
1. Develop techniques to use in patient interviews
 2. Complete immunization records
- F. Digestive System and Basic Nutrition
1. Research common diets used in treatment of specific health conditions
 2. Prepare a report on a current issue or problem concerning nutrition
 3. Calculate calories for a regular diet
- G. Reproductive System
1. React to current issue dealing with reproductive system
 2. Demonstrate the ability to assist with a pelvic exam and pap smear
 3. Demonstrate the ability to teach self-examination of breasts
- H. Urinary System
1. Demonstrate the ability to collect a urine specimen

I. Muscular Skeletal System

1. Locate the sinuses in the skull
2. Demonstrate the ability to apply proper body mechanics

J. Respiratory System

1. Demonstrate the ability to obtain a throat culture
2. Demonstrate the ability to prepare an oxygen cylinder for use
3. Demonstrate the ability to prepare a piped-in oxygen unit for administration
4. Demonstrate the ability to use a nasal cannula and mask

K. Integumentary System

1. Use case studies to develop patient questioning techniques concerning the integumentary system
2. Demonstrate the ability to test cranial nerves

L. Nervous System

1. Demonstrate the ability to test reflexes
2. Demonstrate the ability to test cranial nerves

M. Special Senses

1. Describe reaction of taste buds
2. Demonstrate the ability to measure vision
3. Demonstrate the ability to prepare ophthalmoscope and otoscope for use
4. Demonstrate the ability to irrigate ear
5. Demonstrate the ability to administer eye, ear, and nose medications

Circulatory System

1. Demonstrate the ability to apply electrodes, leads and run an EKG

O. Hematology

1. Demonstrate the ability to perform finger stick for capillary blood tests
2. Demonstrate the ability to perform venipuncture for venous blood tests.

P. Endocrine System

1. Demonstrate the ability to perform clinitest for sugar in urine
2. Demonstrate the ability to perform indicator tape test for sugar in urine
3. Demonstrate the ability to perform urine test for acetone

Office Practice

Q. Medical Terminology

1. Demonstrate a knowledge of medical terminology
2. Demonstrate an understanding of commonly used medical abbreviations and symbols
3. Use a medical dictionary

R. Human Relations and Communications

1. Check self-analysis
2. Determine personal maturity in coping with problems
3. Use steps to solve problems
4. Use defense mechanisms
5. Pronounce words distinctly

6. Give orders, directions and instructions
7. Analyze voice qualities

S. Medical Law and Ethics

1. Interpret the oath of Hippocrates for the medical assistant
2. React to issues concerning ethical behavior and medical laws.

T. Secretarial Procedures

1. Practice correct word usage
2. Fill in appointment cards
3. Index and type names
4. Type correct words for your letter
5. Compose a business letter
6. Care for incoming mail
7. Order supplies
8. Demonstrate the ability to use microsette transcriber

U. Business Procedures

1. Compose collection letters
2. Complete charge slips, daily log, journal, ledger sheet and receipts.
3. Practice pegboard system
4. Balance daily log on pegboard system
5. Figure courtesy discounts
6. Prepare a bank deposit
7. Prepare monthly expense sheet
8. Prepare yearly summary sheet
9. Prepare record of employee's salaries and tax deductions
10. Write a check and complete check stub
11. Reconcile bank statement
12. Complete petty cash summary
13. Complete insurance forms

Clinical Practices

V. Basic Skills

1. Develop questioning techniques to be used in collecting patient data
2. Read Fahrenheit thermometer
3. Read Celsius thermometer
4. Convert Fahrenheit and Celsius thermometer readings
5. Demonstrate the ability to take height and weight (adult and infant)
6. Demonstrate the ability to take temperatures
7. Demonstrate the ability to take pulse and respirations
8. Demonstrate the ability to take blood pressure

W. Surgical Asepsis, Instrument use and Dressing Application

1. Demonstrate the ability to use surgical scrub
2. Demonstrate the ability to use surgical supplies correctly
3. Demonstrate the ability to put on sterile gloves and gowns
4. Demonstrate the ability to apply dressings

X. Basic Laboratory Test and X-rays

1. Prepare a card file

Y. Pharmacology

1. Use physician's desk reference

Z. Administration of Medications

1. Demonstrate the ability to use a syringe
2. Demonstrate the ability to prepare an injection from a vial and an ampule
3. Demonstrate the ability to use a cartridge syringe
4. Demonstrate the ability to prepare insulin for injection
5. Demonstrate the ability to locate intramuscular injection sites
6. Demonstrate the ability to administer an injection

AA. First Aid and Emergency Care

1. Identify emergency equipment
2. Acquire BCLS certification - AHA Course C Standards
3. Demonstrate and perform basic first aid